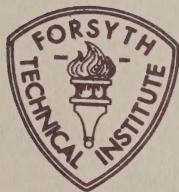


*Visitors to the Institute are welcome.  
The Institute's offices are open from  
eight a.m. until ten p.m., Monday  
through Thursday, and from eight a.m.  
until five p.m. on Friday.*

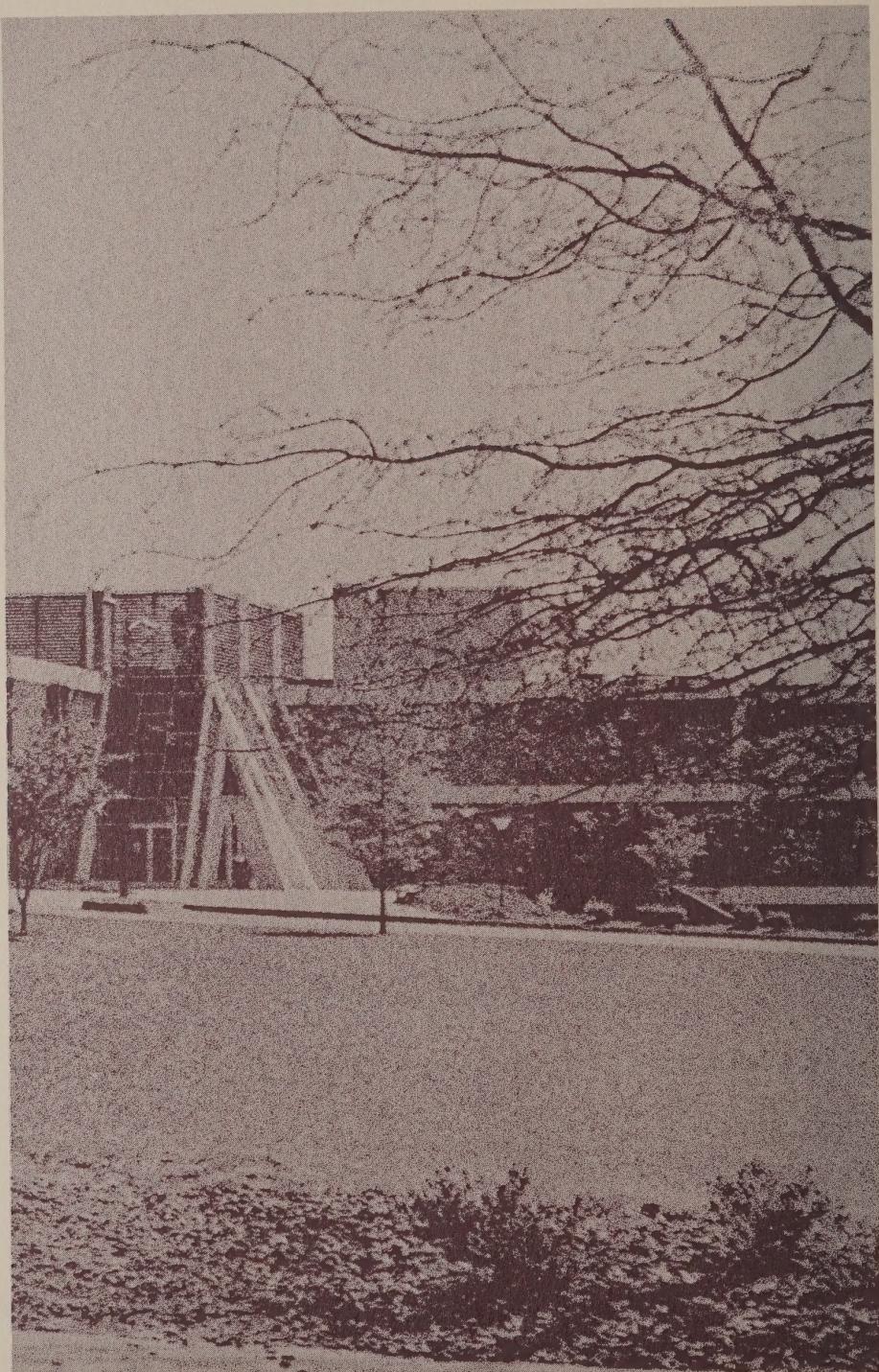
FORSYTH TECHNICAL INSTITUTE

GENERAL CATALOGUE

1973-1975



2100 Silas Creek Parkway  
Winston-Salem, North Carolina 27103  
Telephone: 919 723-0371



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## GENERAL INFORMATION

# FORSYTH TECHNICAL INSTITUTE

## Academic Calendar

1973 - 74

### Date

### Event

#### FALL QUARTER—September 4, 1973-November 27, 1973

September 3	<i>Labor Day Holiday</i>
September 4	<i>Student and Faculty Orientation</i>
September 5 and 6	<i>Registration</i>
September 7	<i>Schedule Adjustment</i>
September 10	<i>First Day of Classes</i>
September 13	<i>Last Day Drop/Add</i>
November 22 and 23	<i>Thanksgiving Holidays</i>
November 21, 26 and 27	<i>Final Examinations</i>
November 27	<i>Grade Reporting</i>

#### WINTER QUARTER—November 29, 1973-February 26, 1974

November 29 and 30	<i>Registration</i>
December 3	<i>First Day of Classes</i>
December 6	<i>Last Day Drop/Add</i>
December 24-January 1	<i>Christmas Holidays and New Year's Day</i>
January 2	<i>Classes Resume</i>
February 22, 25 and 26	<i>Final Examinations</i>
February 26	<i>Grade Reporting</i>

#### SPRING QUARTER—February 28, 1974-May 20, 1974

February 28 and March 1	<i>Registration</i>
March 4	<i>First Day of Classes</i>
March 7	<i>Last Day Drop/Add</i>
April 15	<i>Easter Holiday</i>
May 16, 17 and 20	<i>Final Examinations</i>
May 20	<i>Grade Reporting</i>

#### SUMMER QUARTER—May 22, 1974-August 9, 1974

May 22	<i>Registration</i>
May 23	<i>First Day of Classes</i>
May 28	<i>Last Day Drop/Add</i>
June 10	<i>Registration Special Session</i>
June 13	<i>Last Day Drop/Add Special Session</i>
July 4	<i>Independence Day Holiday</i>
August 2	<i>Last Day Special Session</i>
August 6, 7 and 8	<i>Final Examinations</i>
August 8	<i>Grade Reporting</i>
August 9	<i>Graduation</i>

August 12-August 23—Annual Vacation

## FORSYTH TECHNICAL INSTITUTE

## Academic Calendar

1974-75

*General  
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## **FALL QUARTER—August 26, 1974-November 19, 1974**

August 26	Faculty Orientation
August 27	Student Orientation
August 28 and 29	Registration
August 30	Schedule Adjustment
September 2	Labor Day Holiday
September 3	First Day of Classes
September 6	Last Day Drop/Add
November 14, 15 and 18	Final Examinations
November 19	Grade Reporting

## **WINTER QUARTER—November 21, 1974-February 24, 1975**

November 21 and 22	Registration
November 25	First Day of Classes
November 28 and 29	Thanksgiving Holidays
December 2	Last Day Drop/Add
December 23-January 1	Christmas Holidays and New Year's Day
January 2	Classes Resume
February 19, 20 and 21	Final Examinations
February 24	Grade Reporting

## **SPRING QUARTER—February 26, 1975-May 19, 1975**

February 26 and 27	Registration
February 28	First Day of Classes
March 5	Last Day Drop/Add
March 31	Easter Holiday
May 14, 15 and 16	Final Examinations
May 19	Grade Reporting

**SUMMER QUARTER—May 21, 1975-August 8, 1975**

May 21	Registration
May 22	First Day of Classes
May 27	Last Day Drop/Add
June 5	Registration for Special Session
June 10	Last Day Drop/Add Special Session
July 4	Independence Day Holiday
August 1	Last Day Special Session
August 5, 6 and 7	Final Examinations
August 7	Grade Reporting
August 8	Graduation

### August 11-August 22—Annual Vacation

## PURPOSE

The purpose of Forsyth Technical Institute is to prepare people for gainful employment and effective community membership. Inherent within this purpose is the total development of the individual. The major objective of the curriculum programs is to develop within the student a vocational or technical proficiency to meet the expanding advances in industry, business, and health occupations. The Institute is also dedicated to the concept of continuing education through the Adult Education Program directed toward self-improvement in cultural, avocational, and vocational pursuits.

The course of study at Forsyth Technical Institute seeks to attain the stated purpose of the institution by:

- (1) providing effective teaching to all who enroll, with a continuing interest in the individual in terms of behavior, motivation, and achievement;
- (2) providing educational opportunities for adults who discontinued their formal training before mastering the basic skills in general education;
- (3) providing vocational training for students who are preparing to enter skilled trades;
- (4) providing technical training for those persons wishing to enter the more highly skilled occupations in business, industry, and health service;
- (5) providing technical, vocational, and enrichment courses on a part-time basis for adults now employed.

## HISTORY

Forsyth Technical Institute can trace its beginning to early adult and high school vocational courses which were available in Winston-Salem. In 1958, a Chamber of Commerce Study Committee recommended that an Industrial Education Center be built to provide the trade and technical training needed by local industry. A bond issue provided the money to start construction of two buildings late in 1959, and the first adult classes were begun in October of 1960. In 1963, a third building was constructed, and new technical programs were added. That same year, the North Carolina Legislature passed The Community College Act, creating a statewide system of Community Colleges, Technical Institutes, and Industrial Education Centers. In January, 1964, the name of the school was changed to Forsyth Technical Institute. The operation of the school was transferred from the Winston-Salem/Forsyth County Schools to the State Board of Education which in turn operates the school through the State Department of Community Colleges and a local Board of Trustees.

The fall enrollment for daytime students in 1972 in the associate degree curricula and in the vocational diploma programs was approximately one thousand students.

During the school year 1971-72, over eleven thousand residents of the area were enrolled in the vocational, technical, and adult education programs available through Forsyth Technical Institute.

## LOCATION AND FACILITIES

The Institute is located at 2100 Silas Creek Parkway in the southwest section of Winston-Salem. It is easily accessible from U. S. Highway 52, North Carolina Highway 150, and Interstate Highway 40.

Five buildings house modern laboratories, shops, and classrooms. Lease arrangements have also made space available at the Allied Health Building of Bowman Gray School of Medicine, North Carolina Baptist Hospital, and Forsyth Memorial Hospital for nursing and allied health programs.

## HOURS OF INSTRUCTION

Day classes are scheduled between the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday. Evening classes meet between the hours of 6:00 p.m. and 10:00 p.m., Monday through Thursday. Some adult education classes also meet on Saturday morning.

## ACCREDITATION

Forsyth Technical Institute is accredited by the Southern Association of Colleges and Schools, and is approved by the North Carolina Board of Education.

Electronics Engineering Technology, Manufacturing Engineering Technology, and Mechanical Drafting and Design Engineering Technology are accredited by the Engineering Council for Professional Development.

The Institute is a member in good standing of the American Association of Junior Colleges.

## PROGRAMS OF STUDY

### ASSOCIATE IN APPLIED SCIENCE DEGREE

Architectural Technology

<i>General Information</i>	Business Administration
10	Early Childhood Specialist
	Electronic Data Processing (Business)
	Electronics Engineering Technology
	Executive Secretarial Science
	Executive Secretarial Science—Machine Transcription Option
	Inhalation Therapy Technology
	Manufacturing Engineering Technology
	Mechanical Drafting and Design Engineering Technology
	Nuclear Medicine Technology
	Nursing — Associate Degree
	Ornamental Horticulture
	Police Science Technology
	Radiologic Technology

## DIPLOMA PROGRAMS

Air Conditioning, Refrigeration and Heating  
 Automotive Body Repair  
 Automotive Mechanics  
 Building Trades Drafting  
 Carpentry  
 Diesel Truck Maintenance and Repair  
 Electrical Installation  
 Graphic Arts (Printing)  
 Machinist  
 Mechanic Drafting  
 Plumbing and Heating  
 Practical Nurse Education  
 Television Servicing  
 Welding and Metal Fabrication

## ADULT EDUCATION

Adult Basic Education  
 Adult High School Program  
 General Adult Enrichment Program  
 Manpower Development Training Act Programs  
 New and Expanding Industry Training Programs  
 Special Seminars and Workshops

## ADMISSIONS

### ADMISSION REQUIREMENTS

Forsyth Technical Institute, operating under an "open door" admissions policy, does not impose restrictive standards for admission to the Institute. Admission to the Institute does not, however, imply immediate admission to the program desired by the applicant. Before a prospective student is admitted to a specific curriculum, a counseling interview is arranged, and usually aptitude and placement tests are scheduled. This process helps the student to evaluate his potential for success in his chosen field. When an evaluation of test scores and other evidence indicates a lack of readiness to enter a specific program, the student may be assigned to enter the Pre-Technical Program or he may be encouraged to re-examine his educational and occupational goals.

Forsyth Technical Institute will accept credit from other technical institutes and colleges. For specific information refer to "Transfer Student."

#### *Admission to Associate Degree Programs*

High school graduation, or the equivalent, is required of all applicants for degree programs. The high school equivalency certificate or the state adult education diploma is acceptable in lieu of a regular high school diploma.

Applicants to the associate degree programs who are not high school graduates may arrange to complete high school in the Adult Education program, or take the high school equivalency examination (G.E.D.) at the Learning Lab.

Applicants for admission to the engineering technologies must present one unit in algebra and one unit in plane geometry. Applicants to the Electronic Data Processing program must present one unit in algebra. Applicants for admission to associate degree health programs must present one unit in algebra, one unit in biology, and one unit in chemistry.

Applicants who do not meet course requirements may arrange to make up the deficiency by completing special classes during the summer, or in the Adult Education Program, or in the Learning Lab. Deficiencies must be made up prior to admission to a curriculum.

Applicants to associate degree programs should submit scores on either the Scholastic Aptitude Test or the Comparative Guidance

General Information 12 and Placement Tests. Information concerning the Scholastic Aptitude Test may be obtained from high school counselors. Information on taking the Comparative Guidance and Placement Test is available from the Student Personnel Office at Forsyth Technical Institute.

The Health programs are the only programs that require the approval of applicants by an admissions committee. The members of the Admissions Committee come from the instructional staff of the health curricula and the Student Personnel staff. The purpose of the committee is to evaluate all available data concerning each applicant and to determine that each applicant possesses the special characteristics and personality that these programs seem to require. Factors considered by the committee are:

1. The applicant's maturity and emotional stability.
2. The previous educational record.
3. Test data
4. The applicant's stated interests
5. Personal data
6. Medical history

NOTE: The North Carolina Board of Nursing may deny license to individuals convicted of a felony or any other crime involving moral turpitude.

The committee is mindful that much of the clinical training involves the students working with patients in local hospitals, that their role is constantly being expanded with increasing responsibilities, and that the program must educate and train in anticipation of future demands. A majority of the committee must concur that an applicant meets minimum criteria before he or she is admitted. If the program's enrollment quota is filled before all applications are received, late applicants are informed that they may reapply for the following year.

Any female student in Radiologic Technology or Nuclear Medicine Technology who is or becomes pregnant during the clinical portion of the training must notify the Department Head and Senior faculty instructor and will be dropped from the program. Exposure to radiation must be avoided because of the possible harmful effects to the developing fetus.

The student may return to the program if in good academic standing, after the completion of the pregnancy. The time of reentry into the program will be determined by the Department Head and the Senior faculty instructor.

#### *Admission to Diploma Programs*

The applicant for admission to diploma programs must have

completed high school or be eighteen or more years of age and not enrolled in high school. The applicant must have completed the tenth grade satisfactorily or have scores on the G.E.D. equivalent to the tenth grade. The high school equivalency certificate or the state adult education diploma is acceptable in lieu of a regular high school diploma.

Applicants for all diploma programs are required to take the General Aptitude Test Battery. These tests are given by the Employment Security Commission.

Admission to the Practical Nurse Education program must be approved by the Admissions Committee.

#### *Admission to Adult Education and Extension Programs*

Persons to be enrolled must be eighteen years of age or older and the class with which they entered high school must have graduated. Further information concerning registration procedures may be obtained from the office of the Director of Adult Education.

### **ADMISSIONS PROCEDURES**

Applicants for admission to any degree or diploma program should:

1. Obtain an application form from the Office of Student Personnel or from a high school counselor.
2. Submit the properly completed application to the Office of Student Personnel.
3. Arrange to take the General Aptitude Test Battery at the U. S. Employment Security Office if applying for a diploma program or the Comparative Guidance and Placement Test devised by the Educational Testing Service if applying for Associate Degree Programs. Scores should be sent to the Office of Student Personnel. Scholastic Aptitude Test (SAT) scores may be substituted for the Comparative Guidance and Placement Test.
4. Request that a transcript of all high school and post high school academic work be sent directly to the Office of Student Personnel.
5. Submit recommendations if requested.
6. Report for a personal interview, if requested, on the date scheduled by the Office of Student Personnel. At this interview test scores and previous academic records will be evaluated and the applicant will be advised as to eligibility for admission to the desired program.

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7. Take required placement tests as scheduled by the Office of Student Personnel.
8. Submit a properly completed health appraisal form when requested.

## PLACEMENT TESTS

Placement tests are required as indicated below:

1. Mathematics: applicants to Architectural Technology, Electronic Data Processing (Business), Electronics Engineering Technology, Manufacturing Engineering Technology, Mechanical Drafting and Design Engineering Technology, Allied Health programs, and Associate Degree Nursing.
2. Educational Skills Tests: applicants to Associate Degree Nursing and Allied Health programs.
3. Programmer Aptitude Test: applicants to Electronics Data Processing (Business).
4. Typewriting Proficiency: applicants to Business Administration, Ornamental Horticulture, and Executive Secretarial Science (if applicants have had previous training in typing.)
5. Other special tests as required by the institution.

Students who fail to pass the mathematics placement test will be required to take Pre-Technical Mathematics in the summer prior to enrollment. A course grade of C or better is required for admission to regular technical mathematics.

Students who pass the typewriting proficiency test are given credit for Typewriting I.

Scores on the Programmer Aptitude test are used for counseling purposes only.

## REGISTRATION

The Institute operates on the quarter system. Each quarter is eleven weeks in length and students who are pursuing diploma or degree programs must register at the beginning of each quarter. All students are expected to register during the time set aside for that purpose. Registration dates are listed in the calendar for the academic year. With few exceptions, new students must initially register for the fall quarter.

Tuition charges must be paid on the day of registration.

## LATE REGISTRATION

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All registration for a class is closed after the fourth class day. A student may register late through the fourth class meeting date providing:

1. That the class is not cancelled or closed.
2. That the student has the consent of his advisor and has met admissions and prerequisite requirements.
3. That the student pay a \$5.00 late registration fee in full at the time of late registration unless he registers late at the request of the Institute.

## ORIENTATION

All new full-time students are expected to participate in an orientation program conducted by members of the faculty, staff and student government. Part-time students are urged to participate also. The purpose of orientation is to acquaint the student with the administrative personnel, faculty, and student leaders. The regulations, policies and privileges of the Institute as set forth in the catalogue are discussed and interpreted.

## ACADEMIC INFORMATION

### GRADUATION REQUIREMENTS

Graduation requirements for the degree or diploma will vary according to curriculum. The student should refer to the specific section of the catalogue which applies to his program so that he may be certain of the course requirements for graduation. All students must earn a cumulative grade point average of 2.0, and must have received a passing grade in all required subjects, in order to be eligible for graduation.

Grade Point Average (G.P.A.) is obtained by dividing the total quality points earned by the total number of credit hours work attempted.

### GRADING SYSTEM

The following grading system is used by Forsyth Technical Institute.

No. Grade	Letter Equivalent	Description	Quality Points Per Quarter Hour
94-100	A	Excellent	4

<i>General Information</i>	86-93	B	Good	3
	78-85	C	Fair	2
16	70-77	D	Passing	1
	Below 70	F	Failing	0
	Withdrawn Passing	W		
	Withdrawn Failing	W-F		
	Incomplete	Inc.		
	Audit	Aud.		

The letter equivalent system is used for recording and reporting grades.

#### *W — Withdrawn Passing*

Withdrawn Passing is the grade given to a student who voluntarily withdraws from a course after the tenth class day of a quarter with a passing grade, and has notified the instructor and the Registrar in person or in writing of his decision.

#### *W-F — Withdrawn Failing*

Withdrawn Failing is the grade given to a student who at any time after the fourth class day withdraws from a course without first notifying the instructor and the Registrar, in person or in writing, of his decision. Students who withdraw after the tenth class day and are failing at the time of withdrawal receive a grade of W-F.

#### *Inc — Incomplete*

The grade of Incomplete is given only if a student has a valid reason for failure to complete the work on schedule. Illness, absence on company business, or other circumstances beyond the student's control are considered valid reasons for non-completion of work. The student must have advised his instructor of the circumstances and have been granted an incomplete grade. The instructor must have specified the work to be made up in order to remove the incomplete and a date by which the work must be completed. The instructor cannot authorize a date later than one quarter from the quarter in which an incomplete was given. If the work is not completed, the grade automatically becomes an F at the end of that quarter.

#### *Aud. — Audit*

Students taking courses as auditors are not required to take examinations or hand in written work, but may do so if they wish. No grade or credit toward a degree or diploma is given. Audit may not be changed to credit, or credit to audit after the last day of drop-add.

## HONORS LIST

Soon after the end of each quarter, in order to honor students who have earned outstanding scholastic records, the Institute publishes an Honors List. In order to be named to the Honors List, a student must take a minimum of 12 quarter hours of credit work and earn at least a B (3.0) average.

## COURSE NUMBERING SYSTEM

Courses are numbered in accordance with the system approved by the North Carolina Department of Community Colleges.

1. Each course is designated by a three-letter prefix designating the general subject area.
2. A number indicating a specific course within an area follows the letter prefix according to the following rules.

a. Pre-Technical courses	0 - 99
b. Technical courses	100 - 299
c. Vocational courses	1000 - 1099
d. Adult education courses beyond high school	2000 - 3099

## LATE REGISTRATION AND SCHEDULE CHANGES

Late registration and changes in class schedules will not be permitted after the fourth class day of each quarter. All class schedule changes must be approved by the student's advisor and notification of such changes submitted to the office of the Registrar.

If a student drops a course after the fourth day, but within the first ten days, the drop will be recorded as a W provided that the student has cleared with the Registrar and the instructor.

If the student withdraws after the tenth day, the grade will be recorded as a W provided that the student is passing, and provided that he has cleared with the Registrar and the instructor.

If a student withdraws from a course after the fourth day without notifying the Registrar and the instructor, the grade will be recorded as a W-F.

Departure from the above will be allowed only in exceptional cases, and only when the reasons are deemed valid by the student's advisor.

## WITHDRAWAL FROM SCHOOL

A student who must withdraw, either permanently or temporarily, before graduation should make an official withdrawal. He should notify the Registrar's office and a member of the counseling staff either in person or by telephone and should complete the withdrawal information sheet. This information is necessary to assure that the student's status at the time of withdrawal is clearly

*General Information* 18 identified in order to expedite re-entry, transfer of credit to another institution, or to provide potential employers with accurate educational information.

## ACADEMIC STANDING

To be in good academic standing, a beginning student must have earned a grade point average of 2.0 by the end of the first quarter, and a cumulative G.P.A. of 2.0 must be maintained thereafter.

A student failing to attain the required grade point average in any quarter will be placed on academic probation for the following quarter.

A student on probation whose work has improved to the point where he meets the required cumulative grade point average will automatically be removed from probation.

A student who has been placed on probation and who does not earn the required grade point average in the next quarter will be required to register for a reduced load, or he may be required to withdraw from the program and be directed to a more suitable curriculum.

The Academic Review Committee shall make decisions on individual cases. Each student enrolled in the Institute is expected at all times to be aware of his academic status and to be responsible for knowing he has failed to meet the requirements as outlined above for continuing in school. Instructors, faculty advisors, and counselors in the Office of Student Personnel are available for conferences, but it is the responsibility of the student to seek extra help if it is needed.

## ACADEMIC REVIEW COMMITTEE

The Academic Review Committee includes the following individuals named by the President:

1. One instructor from vocational curricula
2. One instructor from technical curricula
3. One instructor from general studies
4. One student
5. One administrative staff member from the area of instruction
6. The Director of Student Personnel, who will serve as chairman.

The Academic Review Committee shall meet at least once each quarter and review all records of students having an average less than 2.0, or the records of any other students upon request from any faculty member or administrative staff member. It shall be vested with the responsibility of recommending the probationary terms under which a student in academic difficulty be permitted to

re-register. These terms may include the requirements to repeat or not to repeat specific courses, to repeat an entire quarter's work, to carry a reduced load, to enter a more suitable curriculum, or other appropriate recommendations.

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If it is decided that the student shall be dropped from enrollment, the Director of Student Personnel shall so inform the student by personal interview and the President shall so inform the student of this action in writing.

## READMISSION PROCEDURES

A student may request readmission by writing to the President requesting that the review committee act in his behalf. A student must show just reason for asking this review committee to reconvene to reopen his case. Such reasons might be:

1. Removal of academic deficiencies
2. Request for admission to less stringent curriculum
3. A change of demands on the student's out-of-school time.
4. Ability to meet financial responsibilities.
5. Demonstrated improved attitude and conduct.

A student may appeal to the Board of Trustees. An appeal must be initiated by the student and should be in writing to the Chairman of the Board. The Chairman shall present such an appeal to the Board for a hearing, and the President and Office of Student Personnel shall be given an opportunity to present such information as known to them regarding the student.

A student who has voluntarily withdrawn should contact the Student Personnel Office prior to reentry.

## COURSE REPEAT RULE

The last grade earned on a repeated course, whether F or higher, will be the grade computed for grade point average.

In the event a student's quality point ratio falls below that required for satisfactory standing, the Academic Review Committee shall review the student's record and make appropriate recommendations to the Dean of Instruction. The Dean of Instruction shall present such recommendations to the President.

If a student fails any course in his trade or technical curriculum, it will be necessary for him to repeat that course until a passing grade is attained in order to receive the State diploma or the Associate of Applied Science degree. This make-up course is scheduled at the discretion of the Institute.

If a student fails one of the courses in his major subject area, he may be counseled out of the curriculum at the end of the quarter in which the failure occurred.

*General Information*      ATTENDANCE

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Students are expected to attend all class, laboratory and shop sessions. No passing grade will be issued for a course if, for whatever reason, a student has been absent for 25% of the total possible class time per course per quarter.

A student must satisfy his instructor that he should be permitted to remain in a course and attend classes after he incurs any absence in excess of the following:

1. Three (3) regular one hour class sessions.
2. Two (2) shop or laboratory sessions which meet for two or more hours.
3. Two (2) regular one hour class sessions, and one (1) shop or laboratory session which meets for two or more hours.

When a student is absent from a class and a laboratory or shop session which meet consecutively, each session missed will be counted as an absence making a total of two absences for that course.

Students have full responsibility for accounting to their instructors for absences. The instructor has final authority for deciding whether work missed can be made up.

Students are expected to report for class on time. Habitual tardiness may, at the discretion of the instructor, be considered in computing class attendance.

### COURSE LOAD

The suggested contact hours per quarter shown for each curriculum are minimal. It is the policy of the Institute to permit students to enroll in additional subjects and laboratory work beyond those shown in the catalogue.

### SECOND MAJOR IN A DEGREE OR DIPLOMA PROGRAM

A student may receive a second major in his program by meeting the additional requirements of the new program. Credits already earned will be recognized if they meet the criteria established in the "Transfer of Earned Credits Between Programs" as stated below.

### TRANSFER OF EARNED CREDIT BETWEEN PROGRAMS

Credits earned in any degree program may be credited toward a degree or diploma program upon evaluation by the Office of Student Personnel. Credits earned in a diploma program are not acceptable for transfer to an associate degree program but may be credited toward a second diploma major.

## TRANSFER STUDENTS

Applicants who have attended other institutions of higher learning may transfer credit earned in comparable courses or programs of study if the student is transferring from a regionally accredited institution, or from another institution in the North Carolina Community College System. No grade lower than C may be transferred. A student requesting credit for work completed in any other type of training program or institution may be given advance standing on the basis of a proficiency examination. All transcripts for transfer work should be submitted at least one week prior to enrollment. Final decision on transfer credits will be determined by the Institute.

Students requesting credit for training completed in Armed Services Schools should submit official records of service schools completed. Credit may be granted for training comparable to course work offered in the student's curriculum. The amount of credit granted is subjected to approval by the instructor or department head and will not exceed the recommendations in the *Guide to the Evaluation of Educational Experiences in the Armed Services* published by the American Council on Education.

Students may obtain advanced standing in English, mathematics, and other course offering by submitting satisfactory scores on the College Level Examination Program or the Advanced Placement Tests of Educational Testing Service. Each request will be handled on an individual basis by the Student Personnel Office, faculty advisor, and department head.

## STUDENT CLASSIFICATION

**Full-time:** A student who is enrolled for 12 or more quarter hours of course work.

**Part-time:** A student who is enrolled for less than 12 hours of work.

**Special:** A student who is enrolled in credit courses but who is not working toward a degree or diploma. A special student must be 18 years of age or a high school graduate. If not a high school graduate he must not be enrolled in a high school, and his high school class must have been graduated prior to the student's enrollment at the Institute. Permission to register as a special student is granted at the discretion of the Office of Student Personnel and the instructor.

**Audit:** A student who is enrolled in regular course work but who is not receiving credit for work undertaken.

**Freshman:** A student enrolled in a one-year vocational program; or, a student enrolled in a two-year technical program

who has earned less than  $\frac{1}{2}$  the credit hours required for graduation.

22 Sophomore: A student enrolled in a two-year technical program who has earned  $\frac{1}{2}$  or more of the credit hours required for graduation.

## GRADE REPORTS AND TRANSCRIPTS

Shortly after the end of each quarter student grade reports are available to students in the office of the Registrar.

Transcripts of the student's record cannot be sent to other schools, prospective employers, or to the student, himself, unless an official request is made by the student to the Registrar's office.

Grade reports and transcripts are withheld by the Registrar until all student obligations to the Institute have been met.

## STUDENT CONDUCT AND RESPONSIBILITIES

### DISMISSAL

A student may be dismissed from the Institute for conduct or personal habits which are not in the best interest of the student or the institution. Any instructor may request a student to leave the instructor's teaching station when, in the opinion of the instructor, the student's conduct or personal habits disrupt normal classroom procedure. The instructor immediately notifies the Dean of Instruction in writing of his action and the reasons therefor.

If the instructor feels that additional counseling is needed for this particular student, the instructor shall have the prerogative of asking the student to meet with the department head and/or a counselor prior to his being readmitted to the instructor's class. If in the opinion of the instructor or the department head the conduct of the student or his personal habits are such that he should be prohibited from re-entering the class, then the Disciplinary Review Committee will be called into session.

Students are expected to abide by school regulations, local, state, and federal laws. Offenders may be subject to dismissal and/or prosecution by law enforcement officers.

### DISCIPLINARY REVIEW COMMITTEE

The Disciplinary Review Committee composed of representatives from the faculty and student body, under the chairmanship of the Dean of Instruction, reviews all cases involving disciplinary action and makes appropriate recommendation to the President.

The committee may also be convened at the request of any student desiring a review of his disciplinary situation, or any faculty

or administrative staff member who wishes consultation on individual disciplinary cases.

The decision of the President on disciplinary action is final, with the right of appeal always available to the party involved. Any party wishing to appeal the decision of the President should request, in writing, a formal hearing before the Board of Trustees of the Institute.

## STUDENT DRESS CODE

Forsyth Technical Institute continually has prospective employers and other visitors on campus. Also many companies seeking to relocate or open new industries will have representatives visit this campus.

With this in mind, while Forsyth Technical Institute students dress informally, cleanliness and neatness of appearance are strongly encouraged. Each instructor has the right to ask a student to leave his class or shop if the student's personal appearance or attire is objectionable to the other students, or if this attire can be construed to be a hazard to safe operations.

## PARKING REGULATIONS

### *Main Campus*

Parking of student vehicles on campus is allowed by permit only. Vehicle parking permits may be obtained as the student completes registration on registration day, when a decal will be assigned each vehicle. The charge for vehicle registration will be \$2.00 per vehicle for the school year. Complete parking rules and regulations will be issued along with the decal at the time a vehicle is registered.

Vehicle decals must be appropriately displayed on the rear bumper so they are easily visible from directly behind the vehicle.

Park in designated areas only.

Head all vehicles into spaces.

Park inside yellow lines (where marked).

Do not park on grass at any time.

Park motorcycles in designated areas only.

Observe all signs.

Personnel operating vehicles on the campus must be aware of the safe speeds, parking spaces, and regulations.

Vehicles are registered on registration day, and at other times in the Cashier's office.

Those who do not observe parking rules and regulations may expect a violation penalty of \$1.00 per violation. Trustee Policy provides for the enforcement of parking on campus

by withholding grades, transcripts, or other evidence of attendance and accomplishments at Forsyth Technical Institute, or suspension from class.

### *Allied Health Building*

Student parking is available at both the Allied Health Building and Forsyth Memorial Hospital. Students are expected to conform with local regulations.

### USE OF FACILITIES

The building and its contents exist solely for the education of our adult population. The use of the facilities for any other purpose is strictly prohibited. Any use of these facilities for personal gain will result in immediate disciplinary action.

Smoking is prohibited in all classrooms, laboratories and shops.

## GRADUATION

### GRADUATION REQUIREMENTS

A student wishing to receive a degree or a diploma from this institution must fulfill all course requirements as outlined previously.

A student who has earned a cumulative grade point average of 3.5 is eligible to be graduated with high honors.

A student who has earned a cumulative grade point average of 3.0 is eligible to be graduated with honors.

A student who has earned a cumulative grade point average of 2.0 is eligible for graduation.

Course requirements vary according to program. The student should refer to the catalogue for course requirements for graduation from his program of study and should be aware at all times of his progress toward graduation.

It is the further responsibility of the student to complete an official **INTENT TO GRADUATE** form at least six weeks prior to his last registration. These forms may be obtained from the faculty advisor who will assist the student in completing the form, and will submit the form to the Office of the Registrar.

### COMMENCEMENT EXERCISES

Commencement exercises are held at the end of the Summer quarter on the date published in the academic calendar. Degrees and diplomas are awarded at this time. Students are expected to notify the Registrar's office as to their intention to participate in the exercises.

## COMMENCEMENT MARSHALS

The rising sophomores who have maintained the highest scholastic averages during their freshman year are honored by being chosen commencement marshals. The two marshals have the highest academic averages are named chief marshals.

## SCHOOL RINGS

Any student in good standing who has completed at least one-half of the credit hours required for graduation in his curriculum may order the official school ring. The student is required to pay \$10.00 deposit at the time he orders his ring with the balance due upon delivery.

Orders may be placed in the lobby of Snyder Hall on the following dates:

February 8, 1973	February 12, 1974	February 11, 1975
April 5, 1973	April 9, 1974	April 8, 1975
June 28, 1973	June 11, 1974	June 10, 1975
July 17, 1973	July 16, 1974	July 15, 1975
September 18, 1973	September 17, 1974	
November 6, 1973	November 5, 1974	

These dates are subject to change with advance notice.

## TUITION AND FEES

### TUITION

Since the Institute receives funds from local, state and federal sources, tuition charges are very low. These charges are set by the State Board of Education and are subject to change without notice.

#### *Tuition (Fees):*

12 quarter hours or more	\$32.00 per quarter
Less than 12 quarter hours	\$ 2.50 per quarter hour
Late registration fee	\$ 5.00

Tuition charges for non-credit classes in the Extension Program depend upon the nature of the class. No tuition is charged for basic adult education and high school completion classes. Instructional materials fees are set to meet instructional needs in certain types of classes.

Summer School and Audit Fees are charged at the same rate as those charged during the regular term.

Note: Non-residents of the State of North Carolina may be subject to additional tuition fees pending a ruling by the State Office of Attorney General.

## STUDENT ACTIVITY FEE

It is the policy of this institution that a student activity fee be charged. This normally will be from \$3.00 to \$7.00 per school quarter.

The use of such a student fee is at the discretion of the Board of Trustees upon recommendation of the President. In general, these fees are used for student centered activities and for the general benefit of the student or the student body.

## NURSING STATE BOARD EXAMINATION FEE

A fee of \$20.00 is charged by the North Carolina Board of Nursing to students who have satisfactorily completed either the Associate Degree or Practical Nursing program and wish to register for the North Carolina State Licensing Examination.

## BOOKS AND SUPPLIES

Textbooks and supplies are not furnished by Institute, but are the responsibility of the student and may be purchased at the Institute bookstore. The cost of books and supplies varies from program to program, and from quarter to quarter, but usually range from \$35.00 to \$45.00 per quarter.

## UNIFORMS

Uniforms and other special wearing apparel shall be paid for by the students.

The initial cost of uniforms and special equipment for female students in the various health education programs ranges from \$40 to \$80 depending upon the program. The cost of uniforms for male students is somewhat less. The cost of uniforms is estimated and subject to change. Students should inquire for details during admission interviews.

## TUITION REFUNDS

Tuition is not refundable. Exception will be considered where the cause of withdrawal is completely beyond the student's control such as serious illnesses. In such cases two-thirds of the tuition paid may be refunded provided only if the student withdraws within ten calendar days after the first day of classes, as published in the academic calendar. If a student withdraws from a course but remains enrolled in the Institute, he will receive no refund for the course dropped. Refunds of five dollars or less will not be made except for classes cancelled by the Institute.

A student who withdraws within ten calendar days after the first day of class may request that his tuition be credited to his

account so that it may be applied toward costs for any one of the following three quarters.

### TUITION REFUNDS – SPECIAL VETERANS

This section applies only to those veterans receiving special educational benefits paid directly to the institution under provisions of Title 38, U. S. Code, as amended:

The institution has and maintains the following policy for the refund of the unused portion of tuition, fees, and other charges in the event the person fails to enter the course or withdraws, or is discontinued therefrom at any time prior to completion.

The amount charged to the persons for tuition, fees, and other charges for a portion of the course will not exceed the approximate pro rata portion of the tuition, fees and other charges that the length of the completed portion of the course bears to its total length.

It is the responsibility of the student to request a refund through the Office of the Registrar.

### OTHER FEES

No laboratory, breakage or property damage fees will be charged to students. However, in case of breakage or damage due to gross negligence or maliciousness, a student will be expected to remunerate the institution. Academic credit may be withheld until proper payment is made.

All Library materials are subject to a fine of 5 cents per day after due date.

### FINANCIAL AID

#### SCHOLARSHIPS

The Winston-Salem Kiwanis Club and the Twin City Kiwanis Club award non-renewable scholarships to seniors graduating from Forsyth County schools each year. The awarding of these scholarships is not controlled by the Institute.

Limited scholarship funds are available in the Diesel, Graphic Arts-Printing, Practical Nursing, Electrical Installation, and Welding Programs. These are generally awarded by the donor upon recommendation of the Forsyth Technical Institute Scholarship Committee.

The Marshall Paul Johnston Scholarship is a perpetual scholarship available to Automotive Mechanics students only.

The Jane Gaither Murray Scholarship is awarded annually to a deserving student entering the Associate Degree Nursing curri-

General Information 28 culum. Both the Murray and Johnston scholarships are awarded after review of applicants by the Scholarship Committee.

The Society of Engineering Students awards one scholarship annually to an outstanding student enrolled in the second quarter of either Manufacturing Engineering Technology or Mechanical Drafting and Design Engineering Technology.

## LOANS

The Office of Student Personnel maintains a file on sources of financial aid for students. Loans at a low rate of interest are available through the following agencies:

James E. and Mary Z. Bryan Foundation

N. C. Insured Student Loan Program

North Carolina Funds for Vocational and Technical Students Winston-Salem Foundation\*

\* Available to Forsyth County Residents only.

### *James E. and Mary Z. Bryan Foundation Student Loan Plan*

Legal residents of North Carolina enrolled full time in undergraduate programs may borrow up to \$750 per semester or \$500 per quarter for a total of \$1,500 per school year for an aggregate of \$6,000 through College Foundation, Inc. The interest rate is 1 percent during the in-school and grace periods and 6 percent during the repayment period. Apply through the institution's financial aid office.

### *N. C. Insured Student Loan Program*

Legal residents of North Carolina enrolled full time may borrow up to \$750 per semester or \$500 per quarter for a total of \$1,500 per academic year for an aggregate of \$7,500 through College Foundation, Inc. Loans are insured by the State Education Assistance Authority and under certain conditions, the U. S. Office of Education pays the 7 percent interest during the in-school and grace periods. Apply through the institution's financial aid office.

Students desiring to participate in one of these plans should make application to the Office of Student Personnel far enough in advance to allow four to six weeks for processing of application.

## WORK STUDY

The College Work Study program provides employment opportunities for students, particularly those from low income families, who are in need of earnings from part-time employment in order to enter or continue a program of study at Forsyth Technical Institute. Only full-time students are eligible.

Applications are available at the Financial Aid office throughout the year as long as on-campus job openings exist.

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#### **V.A., SOCIAL SECURITY AND D.V.R. BENEFITS**

The Institute is approved for the training of persons eligible for benefits under the Veterans Administration, Social Security Commission and Division of Vocational Rehabilitation.

Additional information concerning these benefits is available at the Student Personnel Office or from offices of the above named agencies.

Students receiving V.A. benefits are responsible for learning how to file their reports, for the accuracy of their reports, and for notifying the Veteran's Officer if they withdraw from any class or from school. The Veteran's Officer is on campus Monday through Thursday from 1:00 P.M. until 10:00 P.M. and on Friday from 8:00 A.M. until 5:00 P.M.

### **ORGANIZATIONS AND ACTIVITIES**

#### **STUDENT GOVERNMENT ASSOCIATION**

The Student Government Association serves to promote interest in student affairs both on and off campus. The Association is composed of representatives elected from each section of each curriculum by the students of that curriculum. Student Government officers are elected from among the official curriculum representatives by vote of the student body. Faculty members are appointed by the administration to serve in an advisory capacity to the Student Government Association.

#### **STUDENT REPRESENTATION ON BOARDS AND COMMITTEES**

An elected student representative serves as a non-voting member of the Board of Trustees of the Institute. Student representatives also serve on the Academic Review Committee, the Disciplinary Review Committee, and in some cases on the Curriculum Advisory Committees.

#### **CIRCLE K**

The Circle K is a national collegiate service club sponsored by Kiwanis International. The club is open to male and female students who are invited to membership at intervals during the year.

#### **ADMINISTRATIVE MANAGEMENT SOCIETY**

The A.M.S., as it is usually called, is a national business club

General Information 30 open to students in the field of Business Administration. To be eligible for invitation to membership a student must have earned a grade point average of 3.0 by the end of the first quarter. Second year students must have maintained an average of 2.5. Membership is by invitation.

## SOCIETY OF ENGINEERING STUDENTS

The Society of Engineering Students is a service and social club open to students from the Manufacturing Engineering, and Drafting and Design Engineering Technology programs. This club, in its first years of existence, has raised and set aside funds for endowing a scholarship open to second quarter students in these two fields of technology.

## OTHER ORGANIZATIONS

Students are encouraged to affiliate with student chapters of various professional and technical organizations and societies.

## ATHLETICS

The Institute does not offer a formal, organized athletic program. The students themselves have organized basketball, softball and bowling teams and compete in Winston-Salem city leagues in these sports. Volunteers from the faculty serve as sponsors and coaches of the teams.

## STUDENT PUBLICATIONS

Students are encouraged to participate actively in the preparation of the F.T.I. *Reporter* and the *Reflector*, the two major student publications.

The F.T.I. *Reporter* is the student newspaper written, edited and managed by the student staff with the assistance of a faculty advisor.

The *Reflector*, the yearbook of the Institute, is written, edited and managed by the student yearbook staff with the assistance of a faculty advisor.

## OTHER STUDENT SERVICES

### GUIDANCE AND COUNSELING SERVICE

The Office of Student Personnel maintains a staff of trained counselors whose services are available to students needing help with educational, vocational or personal problems.

Each full-time student at the Institute is assigned a faculty

advisor who is available for help with problems related to the student's course work. The advisor serves as a direct link between the student and the administrative staff of the Institute.

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## TESTING

Several individualized special tests and inventories are available for counseling purposes through the Office of Student Personnel. Both students and faculty members may obtain information on their availability and value by contacting any counselor.

## HOUSING

Since the Institute has no dormitory facilities, students who wish to live away from home must make their own housing arrangements. The Institute takes no responsibility for locating or supervising student housing; however, suggestions as to location of off-campus housing may be obtained in the Office of Student Personnel.

Students enrolled in health education programs may obtain housing in former nursing school residences at a local hospital. Interested students should inquire before July 1.

## HEALTH SERVICES

Limited health services are provided through the Office of Student Personnel and first-aid supplies located in shop areas; however, injuries requiring more than minor first-aid treatment will be treated in the emergency room of a nearby hospital.

For major illness or injury, ambulance transportation is available to either of the two hospitals both of which are located within two miles of the Institute.

## ACCIDENT INSURANCE

Accident insurance covering the hours a student is in school, on field trips, and in traveling to and from school is provided to full-time, day students from student activity fee funds. Insurance claim forms may be obtained from the Institute Business Office.

## HOSPITALIZATION INSURANCE

All full-time students below age 26 are eligible to obtain Blue Cross-Blue Shield Group Insurance at special student rates.

## STUDENT EMPLOYMENT AND PLACEMENT

The institute, in cooperation with the United States Employment Security Commission, provides the services of a job placement officer. The employment placement office is located in the Student

*General Information* Personnel Office, and the services of the placement officer are available to both part-time and full-time students.

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## FOOD SERVICE

Canteen service is available in the student center which is located on the ground level of Snyder Hall. A variety of hot and cold food and drink is available from vending machines. Hot lunches are also provided through a catering service from 11:30 a.m. to 1:00 p.m. each day.

## STUDENT CENTERS

A large, attractive Student Center is located on the ground level of Snyder Hall. Students are encouraged to use the Center as a place in which to meet, chat, eat and relax. The Center is open from 8 a.m. until 10 p.m., Monday through Thursday, and from 8 a.m. until 5 p.m. on Friday.

A student lounge is also available for students in the health programs in the Allied Health Building.

## LIBRARY

### *Main Campus*

The library is located in Snyder Hall and houses a 20,000 volume collection of reference and circulatory books which are available to all citizens of the area. Additional holdings are being acquired at the rate of approximately 2,500 volumes per year. Also, housed in the library are such audio-visual media as slides, films, filmstrips, tapes, records and microfilm. These media are constantly being added to the library's collection and lend greater variety to available sources of information.

The library is open Monday through Thursday, from 7:30 a.m. until 8:30 p.m. and on Friday from 7:30 a.m. until 4:30 p.m.

### *Allied Health Building*

Students have access to the library in the Allied Health Building.

## BOOKSTORE

A school bookstore is operated by the Institute as a service to students, faculty and staff. Textbooks, school supplies and course-related materials, as well as other items of special interest to students, are offered for sale. The bookstore is adjacent to the Student Center in Snyder Hall and is open from Monday through Friday from 8:30 a.m. until 3:00 p.m. and on Monday and Thursday evenings from 5:30 p.m. until 8:00 p.m.

## LOST AND FOUND SERVICE

Lost and found articles will be handled at the Reception Desk in the 100 Building on the main campus.

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## PRE-TECHNICAL PROGRAM

For those applicants to degree programs who, on the basis of test results and past performance, do not qualify for immediate admission to their chosen programs of study, non-credit developmental course work is available and is required as a condition of admission. The developmental courses are also open to students who wish to take them for personal benefit.

## LEARNING LAB

A student enrolling in the Learning Laboratory sets his own attendance schedule and learns at his own rate. Such a departure from the traditional classroom approach is made possible by programmed instruction, whereby what is to be learned is presented in small steps arranged in logical order. Constant reinforcement, continuous student involvement and immediate feedback produce a low rate of error and a high rate of achievement.

More than a hundred programs and courses are offered in the Institute's three public Learning Labs: the campus lab on the ground floor of Snyder Hall, the downtown lab at 601 North Main Street, Winston-Salem, and the Kernersville lab, in the John R. Paddison Memorial Library.

Enrollment is free and the labs are open to anyone at least eighteen years old provided that the class with which he entered high school has been graduated. A student may enroll at any time. Students use the labs to prepare for the high school equivalency tests or college entrance examinations, to earn credit in the Adult High School Program, to take courses for college admission, to supplement or reinforce instruction offered in one of the Institute's curriculums, and to take self-enrichment courses.

Although most instructional materials are in printed form, several programs make use of audio tapes, filmstrips and other non-book materials and methods.

A sound module is available to students studying foreign language or any other course calling for vocal response.

## HIGH SCHOOL EQUIVALENCY

Adult residents of North Carolina who have not completed high school may earn a Certificate of High School Equivalency by passing a battery of five tests. These tests are known alternately

as the high-school equivalency tests and the GED (General Educational Development) tests.

A Certificate of High School Equivalency is recognized across the nation by most employers and educational institutions.

Persons interested in taking the GED tests should apply at the office of their local city or county superintendent of schools. Persons who live in Winston-Salem or Forsyth County may apply at one of four places in Forsyth County: the Central School Offices on Granville Drive, the Learning Lab on the campus of Forsyth Technical Institute, the Learning Lab at 601 North Main Street, and the Learning Lab at the John R. Paddison Memorial Library in Kernersville.

To be eligible to take the tests, an applicant must be at least 19 years old (18 if he has been out of a regular high school program for at least six months) and must currently reside in North Carolina.

Forsyth Technical Institute is one of sixty official GED testing centers in North Carolina and is the only one in Forsyth County. The center administers the tests by appointment. The Institute may be contacted for further information.

## CHANGES IN REGULATIONS

Forsyth Technical Institute reserves the right, without prior notice, to make changes in regulations, courses, fees, and other matters of policy and procedure when and as deemed necessary.





**ASSOCIATE IN APPLIED  
SCIENCE DEGREE PROGRAMS**

## ARCHITECTURAL TECHNOLOGY T-041

The architectural technician is concerned with turning the architect's design sketches into complete and accurate working plans and detail drawings for construction purposes. He may prepare floor plans; elevation drawings; construction details; mechanical equipment layouts; door, room and window schedules; and site plans. The technician will be involved in work requiring a knowledge of building codes, specifications and contract documents.

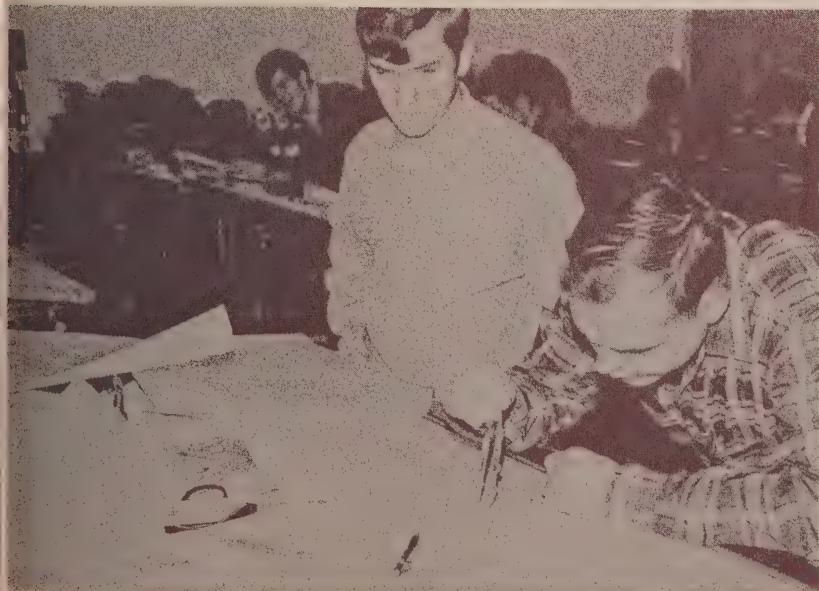
The curriculum was designed in cooperation with the North Carolina Chapter of the American Institute of Architects. It provides the individual with knowledge and skills that will lead to employment in the field of architectural drafting and afford opportunity for rapid advancement in technical knowledge and proficiency.

### CURRICULUM BY QUARTERS

Course Title		Hrs. C	Per L	P	QH
<b>FIRST QUARTER</b>					
MAT 101	Technical Mathematics I	5	0	0	5
ENG 100	Oral Communication	3	0	0	3
DFT 106	Architectural Drafting I	2	0	6	4
DFT 181	History of Architecture and Construction	5	0	0	5
		—	—	—	—
		15	0	6	17
<b>SECOND QUARTER</b>					
MAT 102	Technical Mathematics II	5	0	0	5
ENG 101	Introduction to Written Communication	3	0	0	3
CIV 105	Architectural Materials and Methods	3	2	0	4
DFT 107	Architectural Drafting II	2	0	6	4
		—	—	—	—
		13	2	6	16
<b>THIRD QUARTER</b>					
MAT 103	Technical Mathematics III	5	0	0	5
AHR 106	Architectural Mechanical Equipment	3	0	3	4
PHY 111	Physics: Mechanics	3	2	0	4
DFT 108	Architectural Drafting III	0	0	9	3
		—	—	—	—
		11	2	12	16
<b>FOURTH QUARTER</b>					
MEC 104	Applied Mechanics	5	0	0	5
CIV 101	Surveying	2	0	6	4
PHY 113	Physics: Electricity	3	2	0	4
ECO 102	Economics	3	0	0	3
		—	—	—	—
		13	2	6	16

Course Title		C	L	P	QH	Architectural Technology
<b>FIFTH QUARTER</b>						
MEC 205	Strength of Materials	3	2	0	4	
DFT 220	Architectural Drafting IV	2	0	9	5	
ENG 102	Composition	3	0	0	3	
DFT 233	Office Practice Seminar	2	0	0	2	
		—	—	—	—	
		10	2	9	14	
<b>SIXTH QUARTER</b>						
DFT 221	Architectural Drafting V	2	0	9	5	
DFT 235	Codes, Specifications, and Contract Documents	3	0	3	4	
PSY 206	Applied Psychology	3	0	0	3	
ENG 103	Technical Report Writing	3	0	0	3	
	Elective	3	0	0	3	
		—	—	—	—	
		14	0	12	18	
<b>SEVENTH QUARTER</b>						
PHY 114	Physics: Light and Sound	3	2	0	4	
ISC 201	Industrial Organization and Management	3	0	0	3	
DFT 222	Architectural Drafting VI	2	0	9	5	
DFT 236	Construction Estimating and Field Inspecting	3	0	3	4	
	Elective	3	0	0	3	
		—	—	—	—	
		14	2	12	19	

C-Class  
L-Lab  
P-Practicum  
QH-Quarter Hours Credit



## ASSOCIATE DEGREE NURSING T-059

The curriculum for the Associate Degree in Applied Science in Nursing follows the guidelines as established by the National League of Nursing and the North Carolina State Board of Nursing. Included in the curriculum are liberal arts courses such as English and math. Basic health sciences are included such as anatomy, physiology, microbiology and chemistry to enable the student to acquire a thorough understanding of the human body, its functions, and how diseases and disorders affect it. Courses designed to impart the skills needed by associate degree nurses in the profession are an integral part of the curriculum. Clinical experience will be gained by rotations in the local hospitals. These facilities are Forsyth Memorial Hospital, North Carolina Baptist Hospital, and other community health agencies as needed.

### CURRICULUM BY QUARTERS

#### Suggested sequence of courses

Course Title		Hrs. Per Week	C	L	P	QH
<b>FIRST QUARTER</b>						
BIO 107	Anatomy and Physiology I	3	2	0	0	4
SOC 103	Sociology	3	0	0	0	3
MAT 020	Mathematics for Health Education*	3	0	0	0	0
NUR 101	Nursing I	3	0	9	6	6
		—	—	—	—	—
		12	2	9	13	13
<b>SECOND QUARTER</b>						
ENG 100	Oral Communication	3	0	0	0	3
BIO 108	Anatomy and Physiology II	3	2	0	0	4
CHM 103	Chemistry	3	2	0	0	4
NUR 102	Nursing II	4	0	12	8	8
		—	—	—	—	—
		13	4	12	19	19
<b>THIRD QUARTER</b>						
BIO 111	Microbiology	3	2	0	0	4
PSY 101	Psychology	3	0	0	0	3
NUR 103	Nursing III	4	0	12	8	8
ENG 101	Introduction to Written Communication	3	0	0	0	3
		—	—	—	—	—
		13	2	12	18	18

\*Students may be exempted depending upon pre-test score. Students required to take mathematics do so without credit.

Course Title		Hrs. Per Week	C	L	P	QH	Associate Degree Nursing
<b>FOURTH QUARTER</b>							
HIS 111	American History	3	0	0	3		
NUR 104	Nursing IV	4	0	12	8		
	Elective **	2	0	0	2		
		—	—	—	—		
		9	0	12	13		
<b>FIFTH QUARTER</b>							
PSY 205	Child Psychology	3	0	0	3		
NUR 201	Nursing V	4	0	12	8		
	Elective **	3	0	0	3		
		—	—	—	—		
		10	0	12	14		
<b>SIXTH QUARTER</b>							
POL 212	American Government	3	0	0	3		
NUR 202	Nursing VI	5	0	12	9		
		—	—	—	—		
		8	0	12	12		
<b>SEVENTH QUARTER</b>							
NUR 203	Nursing VII	4	0	18	10		
NUR 204	Nursing Trends Seminar	2	0	0	2		
		—	—	—	—		
		6	0	18	12		

\*\*Electives for personal enrichment are to be selected in the areas of general education or liberal arts with the assistance and approval of advisor. The two electives required should be fulfilled before the seventh quarter.

C-Class  
L-Lab  
P-Practicum  
QH-Quarter Hours Credit



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The distribution of goods has been generally recognized as the largest single problem in business. Techniques for mass production of goods have been perfected, and better ways to get these products to the consumer are needed.

The Business Administration program is designed to (1) develop the student's knowledge of the fundamentals of marketing and distribution and to provide him with an understanding of organization and management (2) develop skills in selling, advertising, and analysis and (3) familiarize the student with growth problems confronting business today.

Jobs available which graduates could fill are in the areas of retailing, wholesaling, industrial marketing, finance, and service industries. Services performed by graduates include sales, advertising, merchandising, buying, credit, and personnel.

### CURRICULUM BY QUARTERS

Course Title		Hrs. Per Week			
		C	L	P	QH
<b>FIRST QUARTER</b>					
ENG 100	Oral Communication	3	0	0	3
BUS 102	Typewriting I	2	0	3	3
MAT 110	Business Mathematics	5	0	0	5
BUS 101	Introduction to Business	5	0	0	5
		—	—	—	—
		15	0	3	16
<b>SECOND QUARTER</b>					
ENG 101	Introduction to Written Communication	3	0	0	3
BUS 120	Accounting I	4	0	3	5
ECO 102	Economics I	3	0	0	3
BUS 110	Office Machines I	2	0	3	3
		—	—	—	—
		12	0	6	14
<b>THIRD QUARTER</b>					
ENG 102	Composition	3	0	0	3
BUS 115	Business Law I	3	0	0	3
BUS 121	Accounting II	4	0	3	5
ECO 104	Economics II	3	0	0	3
		—	—	—	—
		13	0	3	14
<b>FOURTH QUARTER</b>					
BUS 116	Business Law II	3	0	0	3
EDP 101	Principles of Business Data Processing	3	0	3	4
BUS 229	Taxes	2	0	3	3
BUS 239	Marketing	5	0	0	5
		—	—	—	—
		13	0	6	15

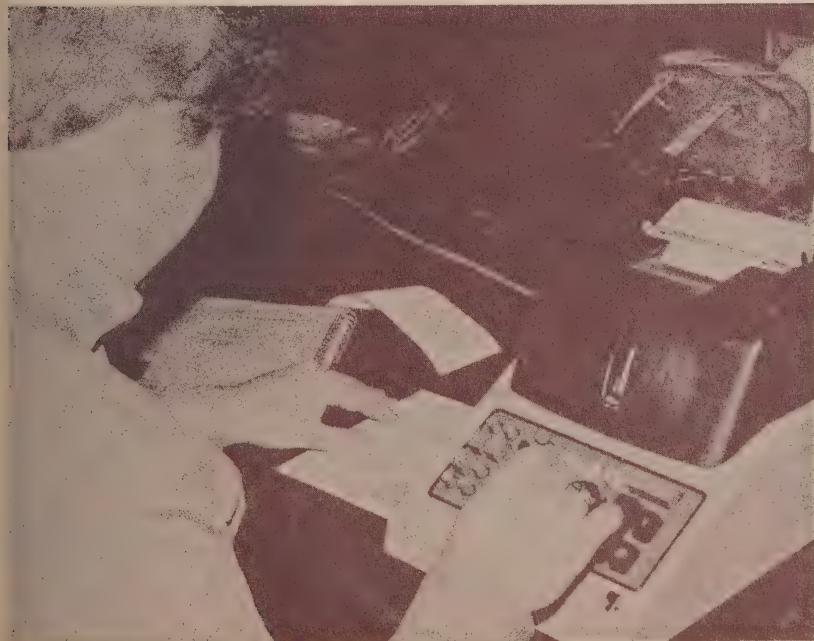
Course Title		Hrs. Per Week	C	L	P	QH	Business Administration
<b>FIFTH QUARTER</b>							
ENG 103	Technical Report Writing	3	0	0	0	3	
BUS 123	Business Finance I	3	0	0	0	3	
BUS 232	Sales Development	3	0	0	0	3	
BUS 271	Office Management	3	0	0	0	3	
PSY 206	Applied Psychology	3	0	0	0	3	
		<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	
		15	0	0	0	15	
<b>SIXTH QUARTER</b>							
ENG 206	Business Communications	3	0	0	0	3	
BUS 124	Business Finance II	3	0	0	0	3	
BUS 243	Advertising	4	0	0	0	4	
BUS	Elective	6	0	0	0	6	
		<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	
		16	0	0	0	16	
<b>SEVENTH QUARTER</b>							
	Elective	3	0	0	0	3	
BUS 235	Business Management	3	0	0	0	3	
BUS 272	Principles of Supervision	3	0	0	0	3	
BUS	Elective	6	0	0	0	6	
		<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	
		15	0	0	0	15	

C-Class

L-Lab

P-Practicum

QH—Quarter Hours Credit



## EARLY CHILDHOOD SPECIALIST T-073

Early childhood specialists are concerned with providing for infants and young children a program which will promote the optimal development of each child. The specialist must understand and be able to (1) meet the physical and nutritional needs of pre-school children; (2) provide activities which stimulate intellectual, emotional, and social growth of children; (3) guide children in the formation of acceptable habits and attitudes; and (4) assist children in their learning to communicate effectively with others. In addition, the early childhood education specialist must be able to work effectively with parents and, where necessary, provide guidance in improving the child's home experience.

This curriculum is designed to provide the educational preparation of individuals to serve in a variety of roles in facilities concerned with the care and development of infants and young children. It also provides individuals with the knowledge, understanding and skills needed to work effectively with pre-school children in various stages of development.

The program is built around the developmental approach which aims for the optimal development of each child. As staffing requirements of both day care and residential facilities increase, graduates of this curriculum should find many different types of jobs available.

### CURRICULUM BY QUARTERS

#### Suggested Curriculum

Course Title		Hrs. Per Week	C	L	P	QH
<b>FIRST QUARTER</b>						
ENG 100	Oral Communication	3	0	0	0	3
PSY 104	The Dynamics of Human Behavior	3	2	0	0	4
SOC 104	The Family: A Cross-Cultural Survey	3	0	0	0	3
EDU 101	Child Growth and Development	3	0	0	0	3
SCI 101	General Science	3	4	0	0	5
		—	—	—	—	—
		15	6	0	0	18
<b>SECOND QUARTER</b>						
ENG 101	Introduction to Written Communication	3	0	0	0	3
PSY 105	Human Growth and Development: Prenatal & Infant	3	0	0	0	3
SOC 105	Families in the American Culture	3	0	0	0	3
EDU 102	Programming for Young Children	3	0	6	5	5
NUT 102	Nutrition for Young Children	2	0	3	3	3
		—	—	—	—	—
		14	0	9	9	17

Course Title		Hrs. C	Per Week L	P	QH	Early Childhood Specialist 43
<b>THIRD QUARTER</b>						
ENG 102	Composition	3	0	0	3	
PSY 106	Human Growth and Development: Early Childhood	3	0	0	3	
SOC 106	The Family in the Community	3	0	0	3	
EDU 103	Working with Young Children	3	0	9	6	
HEA 101	Personal Hygiene and Health	2	0	0	2	
		—	—	—	—	
		14	0	9	17	

#### FOURTH QUARTER

ENG 103	Report Writing	3	0	0	3	
PSY 201	Human Growth and Development: Middle Childhood and Adolescence	3	0	0	3	
EDU 201	Activities for Young Children	3	0	9	6	
SOC 201	The Child and Community Services Elective	3	0	0	3	
		—	—	—	—	
		15	0	9	18	

#### FIFTH QUARTER

ENG 206	Business Communications	3	0	0	3	
PSY 202	Human Growth and Development: Adulthood	3	0	0	3	
EDU 202	Seminar-Practicum in Early Childhood	4	0	12	8	
EDU 203	The Exceptional Child Social Science Elective	3	0	0	3	
		—	—	—	—	
		16	0	12	20	

#### SIXTH QUARTER

	Social Science Elective	3	0	0	3	
	Elective**	3	0	0	3	
EDU 204	Parent Education	3	0	0	3	
EDU 205	Seminar-Practicum	2	0	15	7	
EDU 206	Special Problems in Early Childhood	2	0	0	2	
		—	—	—	—	
		13	0	15	18	

\*\*Elective courses must be selected from the Associate Degree Curriculum.

C—Class  
L—Lab  
P—Practicum  
QH—Quarter Hours Credit

## ELECTRONIC DATA PROCESSING— BUSINESS T-022

Computers and information sciences have affected the lives of most Americans, and benefits derived from computers have caused increased demands for personnel in computer science. Because the training of programming personnel on the job is so expensive, there is an increasing demand for the qualified graduate in this area. Such a graduate must think analytically and logically; understand data processing concepts; possess programming skills; and have a knowledge of business, mathematics, accounting, and English sufficient to enable him to use his programming skills effectively.

The Electronic Data Processing Program is designed to train students for employment as computer programmers in business. Students write and test programs in the languages used most widely in business today with particular emphasis placed on COBOL. Students program on up-to-date equipment of the type most used in industry. A study of computer systems and basic systems design and analysis is included.

### CURRICULUM BY QUARTERS

Course Title			Hrs. Per Week	C	L	P	QH
<b>FIRST QUARTER</b>							
ENG 100	Oral Communication		3	0	0	0	3
MAT 110	Business Mathematics		5	0	0	0	5
EDP 101	Principles of Data Processing		3	0	3	3	4
EDP 102	Logic and Decision Making		2	0	3	3	3
			—	—	—	—	—
			13	0	6	6	15
<b>SECOND QUARTER</b>							
BUS 120	Accounting I		4	0	3	3	5
MAT 111	EDP Mathematics I		5	0	0	0	5
EDP 105	Assembly Language Programming I		5	2	0	0	6
			—	—	—	—	—
			14	2	3	3	16
<b>THIRD QUARTER</b>							
ENG 101	Introduction to Written Communication		3	0	0	0	3
BUS 121	Accounting II		4	0	3	3	5
MAT 112	EDP Mathematics II		5	0	0	0	5
EDP 110	COBOL Programming I		3	2	0	0	4
			—	—	—	—	—
			15	2	3	3	17

Course Title		C	L	P	QH	Electronic Data Processing
						45

#### FOURTH QUARTER

ENG 102	Composition	3	0	0	3	
	EDP Selection	3	2	0	4	
EDP 111	COBOL Programming II	2	4	0	4	
EDP 201	Computer Systems	3	2	0	4	
		—	—	—	—	
		11	8	0	15	

#### FIFTH QUARTER

ENG 206	Business Communications	3	0	0	3	
EDP 112	COBOL Programming III	2	4	0	4	
EDP 205	Systems Design and Analysis I	3	2	0	4	
	EDP Selection	3	2	0	4	
		—	—	—	—	
		11	8	0	15	

#### SIXTH QUARTER

EDP 206	Sociology Elective	3	0	0	3	
	Systems Design and Analysis II	3	2	0	4	
	EDP Selection	3	2	0	4	
	Business Elective	3	0	0	3	
		—	—	—	—	
		12	4	0	14	

#### SEVENTH QUARTER

ENG 103	Technical Report Writing	3	0	0	3	
EDP 210	Language Survey	2	0	0	2	
EDP 220	Research Project	1	8	0	5	
	EDP Selection	3	2	0	4	
		—	—	—	—	
		9	10	0	14	

EDP Selections will be specified by the Institution from the following list of courses:

EDP 260	Functional Wiring Principles	2	2	0	3	
EDP 106	Assembly Language Programming II	2	4	0	4	
EDP 230	Introduction to FORTRAN	3	2	0	4	
EDP 231	Linear Programming	3	2	0	4	
EDP 240	PL/1 Programming I	3	2	0	4	
EDP 241	PL/1 Programming II	3	2	0	4	
EDP 250	RPG Programming	3	2	0	4	

Total credits earned during seven quarters will be 109.

C-Class  
L-Lab  
P-Practicum  
QH-Quarter Hours Credit

## ELECTRONICS ENGINEERING TECHNOLOGY T-045

The past decade has seen an electronics invasion into practically every industrial operation because of the development of the integrated circuit. The ever expanding application of these tiny microelectronic devices has produced an industrial revolution in the areas of computers, machine controls, communications, entertainment electronics, space technology and medical electronics. As a result, thousands of new job opportunities have emerged for the electronics technician. The individual who expects to enter this fascinating field must acquire the highly specialized skills and knowledge which will enable him to work with engineers and scientists in developing, constructing and testing all kinds of electronic products.

### CURRICULUM BY QUARTERS

Course Title		C	L	P	QH
<b>FIRST QUARTER</b>					
MAT 101	Technical Mathematics I	5	0	0	5
ENG 100	Oral Communication	3	0	0	3
ELC 101	Fundamentals of Electricity I	5	0	6	7
		—	—	—	—
		13	0	6	15
<b>SECOND QUARTER</b>					
MAT 102	Technical Mathematics II	5	0	0	5
ENG 101	Introduction to Written Communication	3	0	0	3
ELC 102	Fundamentals of Electricity II	5	0	6	7
		—	—	—	—
		13	0	6	15
<b>THIRD QUARTER</b>					
MAT 103	Technical Mathematics III	5	0	0	5
ENG 102	Composition	3	0	0	3
PHY 111	Physics: Mechanics	3	2	0	4
ELN 105	Control Devices	5	0	6	7
		—	—	—	—
		16	2	6	19
<b>FOURTH QUARTER</b>					
MAT 201	Technical Mathematics IV	5	0	0	5
PHY 112	Physics: Materials and Heat	3	2	0	4
ELN 205	Semi-conductor Applications I	5	0	6	7
		—	—	—	—
		13	2	6	16

Course Title		Hrs. C	Per Week L	P	QH	Electronics Engineering Technology
<b>FIFTH QUARTER</b>						
ENG 103	Technical Report Writing	3	0	0	3	
ECO 102	Economics	3	0	0	3	
ELN 224	Pulse Circuits and Wave Shaping	4	0	3	5	
ELN 210	Semi-conductor Applications II	5	0	3	6	
		—	—	—	—	
		15	0	6	17	

### SIXTH QUARTER

DFT 101	Technical Drafting I	2	0	6	4
PSY 206	Applied Psychology	3	0	0	3
ELN 235	Industrial Electronics	3	0	3	4
ELN 240	Digital Fundamentals	4	0	3	5
		—	—	—	—
		12	0	12	16

### SEVENTH QUARTER

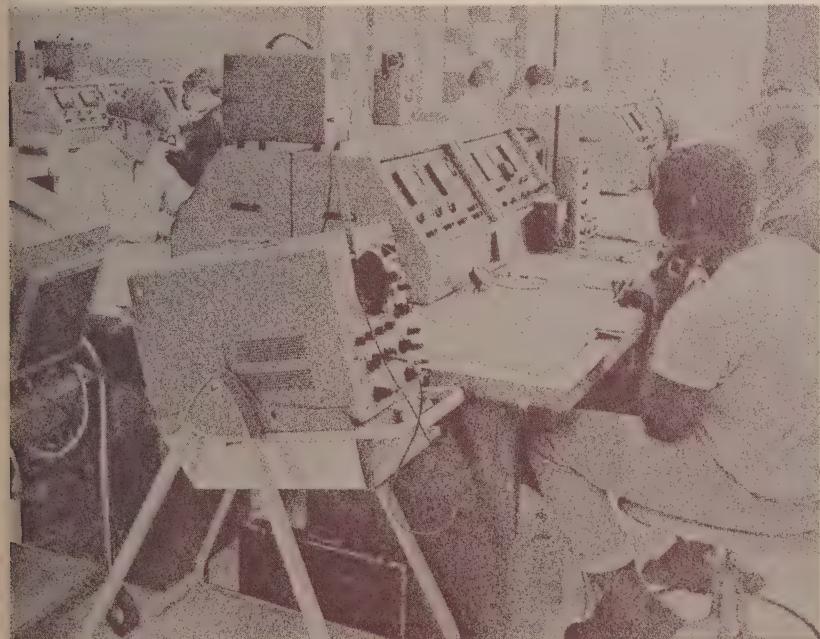
PHY 114	Physics: Light and Sound	3	2	0	4
MAT 208	Calculus for Electronics	5	0	0	5
ELN 245	Electronic Design Project	0	0	6	2
ELN 220	Electronic Systems Analysis	5	0	3	6
		—	—	—	—
		13	2	9	17

C-Class

L-Lab

P-Practicum

QH-Quarter Hours Credit



## EXECUTIVE SECRETARIAL SCIENCE T-030

Many individuals are employed in occupations requiring stenographic skills. Practically all secretaries record dictation and transcribe it on the typewriter. Usually they have additional duties related to the nature of the employer's business, and sometimes they have special job titles which reflect skill levels or job specialties. In addition to their stenographic work, secretaries usually relieve employers of routine duties and frequently handle a variety of business details on their own initiative.

The two year program of studies provides instruction in all phases of secretarial work, including the operation of the most up-to-date office machines.

### CURRICULUM BY QUARTERS

Course Title		Hrs. Per Week	C	L	P	Q
<b>FIRST QUARTER</b>						
ENG 100	Oral Communication		3	0	0	3
MAT 110	Business Mathematics		5	0	0	5
BUS 101	Introduction to Business		5	0	0	5
BUS 102	Typewriting I		2	0	3	3
			—	—	—	—
			15	0	3	16
<b>SECOND QUARTER</b>						
ENG 101	Introduction to Written Communication		3	0	0	3
BUS 103	Typewriting II		2	0	3	3
BUS 106	Shorthand I		3	0	3	4
BUS 120	Accounting I		4	0	3	5
			—	—	—	—
			12	0	9	15
<b>THIRD QUARTER</b>						
ENG 102	Composition		3	0	0	3
BUS 104	Typewriting III		2	0	3	3
BUS 107	Shorthand II		3	0	3	4
BUS 110	Office Machines I		2	0	3	3
			—	—	—	—
			10	0	9	13
<b>FOURTH QUARTER</b>						
BUS 108	Shorthand III		3	0	3	4
BUS 115	Business Law I		3	0	0	3
BUS 105	Typewriting IV		2	0	3	3
BUS 211	Office Machines II		2	0	3	3
ENG 103	Technical Report Writing		3	0	0	3
			—	—	—	—
			13	0	9	16

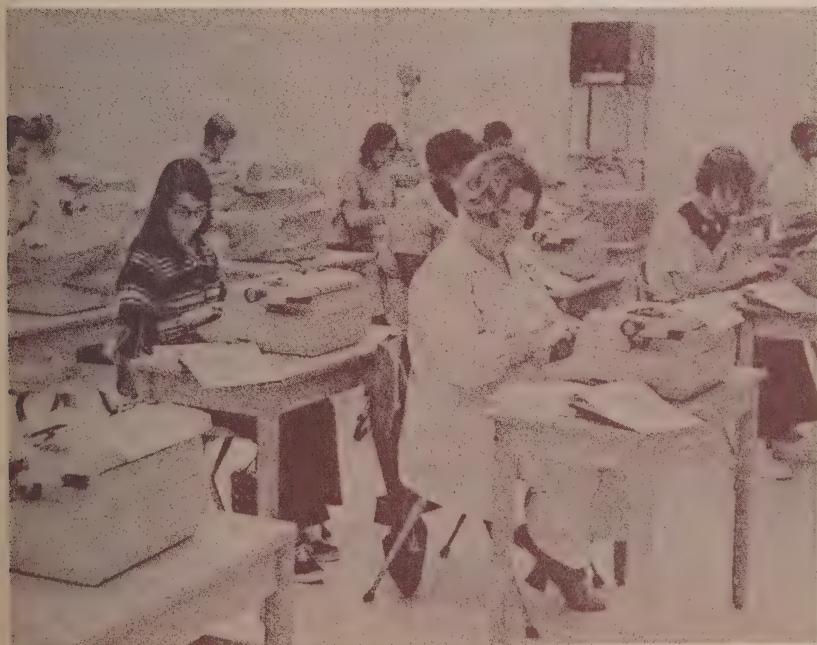
Course Title		Hrs. Per Week			Executive Secretarial Science
		C	L	P	QH
<b>FIFTH QUARTER</b>					
BUS 206E	Dictation and Transcription I	3	0	3	4
BUS 205	Typewriting V	2	0	3	3
EDP 101	Principles of Business Data Processing	3	0	3	4
ENG 206	Business Communications	3	0	0	3
		—	—	—	—
		11	0	9	14
<b>SIXTH QUARTER</b>					
BUS 207E	Dictation and Transcription II	3	0	3	4
BUS 214	Secretarial Procedures	3	0	3	4
PSY 112	Personality Development	3	0	0	3
	Elective	3	0	0	3
		—	—	—	—
		12	0	6	14
<b>SEVENTH QUARTER</b>					
SOC 103	Sociology	3	0	0	3
BUS 208E	Dictation and Transcription III	3	0	3	4
BUS 271	Office Management	3	0	0	3
BUS 213	Filing	3	0	0	3
BUS 219	Office Application	2	0	12	6
		—	—	—	—
		14	0	15	19

C-Class

L-Lab

P-Practicum

QH-Quarter Hours Credit



## EXECUTIVE SECRETARIAL SCIENCE—MACHINE TRANSCRIPTION OPTION—033

This course of study is very similar to the Executive Secretarial Science curriculum with one major difference. There is no shorthand offered in this program. In its place are several courses which will prepare these students for handling machine transcription. In many offices shorthand is not used, and in others machine transcription serves the purposes of the employer. In addition, students in this option get two quarters of accounting, a quarter of economics, and a course in vocabulary and terminology which is new in business offerings.

### CURRICULUM BY QUARTERS

Course Title	Hrs. Per Week	C	L	P	QH
<b>FIRST QUARTER</b>					
ENG 100 Oral Communication		3	0	0	3
MAT 110 Business Mathematics		5	0	0	5
BUS 101 Introduction to Business		5	0	0	5
BUS 102 Typewriting I		2	0	3	3
	—	—	—	—	—
	15	0	3	—	16
<b>SECOND QUARTER</b>					
ENG 101 Introduction to Written Communication		3	0	0	3
BUS 103 Typewriting II		2	0	3	3
BUS 110 Office Machines I		2	0	3	3
BUS 120 Accounting I		4	0	3	5
	—	—	—	—	—
	11	0	9	—	14
<b>THIRD QUARTER</b>					
ENG 102 Composition		3	0	0	3
BUS 104 Typewriting III		2	0	3	3
BUS 211 Office Machines II		2	0	3	3
BUS 121 Accounting II		4	0	3	5
	—	—	—	—	—
	11	0	9	—	14
<b>FOURTH QUARTER</b>					
BUS 105 Typewriting IV		2	0	3	3
BUS 115 Business Law		3	0	0	3
ENG 103 Technical Report Writing		3	0	0	3
ECO 102 Economics		3	0	0	3
EDP 101 Principles of Business Data Processing		3	0	3	4
	—	—	—	—	—
	14	0	6	—	16

Course Title		C	L	P	QH	Executive Secretarial Science Machine Transcription Option
<b>FIFTH QUARTER</b>						
BUS 205	Typewriting V	2	0	3	3	
ENG 206	Business Communication	3	0	0	3	
BUS 232	Sales Development	3	0	0	3	
PSY 112	Personality Development	3	0	0	3	
BUS 112	Techniques of Machine Transcription	3	0	0	3	51
		—	—	—	—	
		14	0	3	15	
<b>SIXTH QUARTER</b>						
BUS 271	Office Management	3	0	0	3	
PSY 206	Applied Psychology	3	0	0	3	
BUS 214	Office Procedures	3	0	3	4	
BUS 212A	Machine Transcription	2	2	0	3	
BUS 113	Vocabulary/Terminology	3	0	0	3	
		—	—	—	—	
		14	2	3	16	
<b>SEVENTH QUARTER</b>						
SOC 103	Sociology	3	0	0	3	
BUS 212B	Machine Transcription	2	2	0	3	
BUS 213	Filing	3	0	0	3	
	Elective	6	0	0	6	
		—	—	—	—	
		14	2	0	15	

C-Class  
L-Lab  
P-Practicum  
QH-Quarter Hours Credit



## INHALATION THERAPY TECHNOLOGY T-091 (Respiratory Therapy Technology)

Inhalation Therapy is an allied health specialty employed in the treatment, management, control and intensive care of patients having serious respiratory problems from any cause.

After completing a Core Curriculum for Allied Health students, the student will participate in a specialized program which includes training in the therapeutic use of medical gases and oxygen administering apparatus, environmental control systems, humidification and aerosols, drugs and medications, the assistance with cardiopulmonary resuscitation, and maintenance of natural, artificial and mechanical airways.

Specific testing techniques can be employed in inhalation therapy to assist in diagnoses, monitoring, treatment and research. These include measurement of ventilatory volumes, pressure and flows, and blood-gas analysis. Respiratory physiotherapy includes teaching the patient to breathe properly. This includes means of loosening and clearing of secretions through chest percussion and postural drainage in conjunction with deep breathing.

Since inhalation therapy as a special health area parallels closely other professional areas, it is important as a member of the health care delivery system.

Bowman Gray School of Medicine, North Carolina Baptist Hospital and Forsyth Memorial Hospital will provide the clinical experience for degree requirements.

### CURRICULUM BY QUARTERS

#### Suggested sequence of courses

Course Title		Hrs. Per Week			
	C	L	P	QH	
<b>FIRST QUARTER</b>					
BIO 107	Anatomy and Physiology I	3	2	0	4
CHM 103	Chemistry	3	2	0	4
ENG 100	Oral Communication	3	0	0	3
HEA 109	Health Services and Ethics	1	0	0	1
MAT 113	Mathematics I	3	0	0	3
BIO 115	Medical Terminology I	1	0	0	1
		<hr/>	<hr/>	<hr/>	<hr/>
		14	4	0	16

Course Title		Hrs. C	Per Week L	P	QH	Inhalation Therapy Technology
<b>SECOND QUARTER</b>						
BIO 108	Anatomy and Physiology II	3	2	0	4	
ENG 101	Introduction to Written Communication	3	0	0	3	
HEA 116	Fundamentals of Patient Care	2	0	0	2	
MAT 114	Mathematics II	3	0	0	3	
BIO 116	Medical Terminology II	1	0	0	1	
PHY 105	Physics I	3	0	0	3	
		—	—	—	—	
		15	2	0	16	
<b>THIRD QUARTER</b>						
HEA 107	First Aid	2	0	0	2	
HEA 169	Fundamentals of Disease Processes	4	0	0	4	
PHY 106	Physics II	3	0	0	3	
PSY 169	Social Psychology of Health and Illness	4	0	0	4	
HEA 139	Topographical Anatomy	2	0	0	2	
HEA 149	General Pharmacology	3	0	0	3	
		—	—	—	—	
		18	0	0	18	
<b>FOURTH QUARTER</b>						
INT 139	Cardiopulmonary Anatomy and Physiology	2	0	0	2	
INT 111	I.T. Orientation	0	0	18	6	
INT 105	I.T. Theories and Principles I	5	2	0	6	
PHY 107	Physics III	2	1	0	2	
		—	—	—	—	
		9	3	18	16	
<b>FIFTH QUARTER</b>						
INT 205	I.T. Theories and Principles II	4	2	0	5	
INT 225	Library Research I	2	0	0	2	
INT 218	Practicum	0	0	18	6	
INT 269	Pulmonary and Cardiovascular Pathophysiology and Pulmonary Mechanics	6	0	0	6	
		—	—	—	—	
		12	2	18	19	
<b>SIXTH QUARTER</b>						
INT 233	Chest Physiotherapy	1	2	0	2	
INT 208	Emergency Medicine and Resuscitation	2	2	0	3	
INT 250	Intensive Respiratory Care	3	0	0	3	
INT 215	I.T. Theories and Principles III	2	2	0	3	
INT 235	Library Research II	1	0	0	1	
INT 228	Practicum	0	0	12	4	
INT 268	Pulmonary Function	3	0	0	3	
		—	—	—	—	
		12	6	12	19	

*Inhalation  
Therapy  
Technology*

**Course Title**

**Hrs. Per Week**

**C L P QH**

**SEVENTH QUARTER**

54	INT 263	Advanced I.T. Techniques and Theories	2	2	0	3
	INT 241	I.T. Department Operations	2	0	0	2
	INT 287	I.T. Pharmacology	1	0	0	1
	INT 245	Library Research III	2	0	0	2
	INT 211	Pediatrics	2	0	0	2
	INT 238	Practicum	0	0	18	6
			—	—	—	—
			9	2	18	16

**EIGHTH QUARTER**

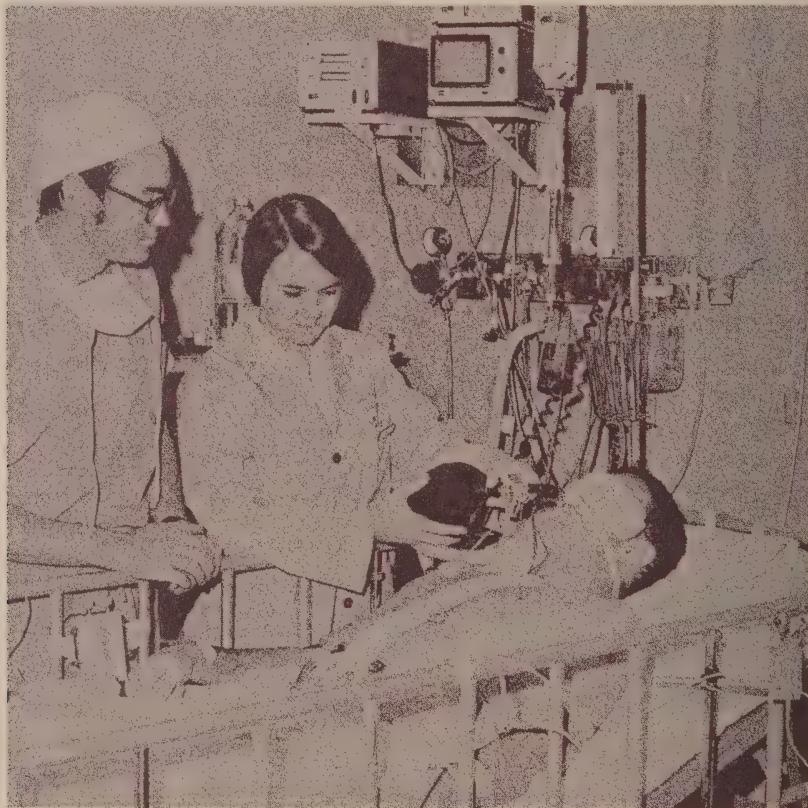
INT 294	Advanced Respiratory Care	2	0	0	2
INT 248	Practicum	0	0	15	5
INT 296	Special Clinical Rotation	0	0	21	7
BUS 235	Business Management	3	0	0	3
		—	—	—	—
		5	0	36	17

C-Class

L-Lab

P-Practicum

QH-Quarter Hours Credit



# MANUFACTURING ENGINEERING TECHNOLOGY

## T-050

*Manufacturing  
Engineering  
Technology*

55

This field is perhaps one of the most promising ones that a student with an interest in science and mechanics may enter in our modern technical world. The demand for trained technicians has exceeded the supply for many years, and every indication is that this situation will continue. This two year program prepares the student for employment as an engineering assistant in such fields as quality control, plant layout, methods and time study, metallurgy, technical sales, and management. Job opportunities exist in industry, civil service, military service, insurance, and the consulting fields.

The Manufacturing Engineering Technology program combines academic courses with laboratory and shop practice. An extensive machine shop, a well equipped material testing laboratory, as well as chemistry and physics laboratories, insure that actual job techniques will be practiced.

### CURRICULUM BY QUARTERS

Course Title		Hrs. Per Week			
		C	L	P	QH
<b>FIRST QUARTER</b>					
MAT 101	Technical Mathematics I	5	0	0	5
ENG 100	Oral Communication	3	0	0	3
DFT 101	Technical Drafting I	2	0	6	4
MEC 101	Machine Processes I	1	0	6	3
MEC 192	Orientation to Manufacturing Engineering Technology	1	0	0	1
		—	—	—	—
		12	0	12	16

### SECOND QUARTER

MAT 102	Technical Mathematics II	5	0	0	5
ENG 101	Introduction to Written Communication	3	0	0	3
PHY 111	Physics: Mechanics	3	2	0	4
DFT 102	Technical Drafting II	2	0	6	4
MEC 102	Machine Processes II	1	0	6	3
		—	—	—	—
		14	2	12	19

### THIRD QUARTER

MAT 103	Technical Mathematics III	5	0	0	5
ENG 102	Composition	3	0	0	3
MEC 201	Manufacturing Processes I	1	0	6	3
PHY 112	Physics: Materials and Heat	3	2	0	4
		—	—	—	—
		12	2	6	15

*Manufacturing  
Engineering  
Technology*

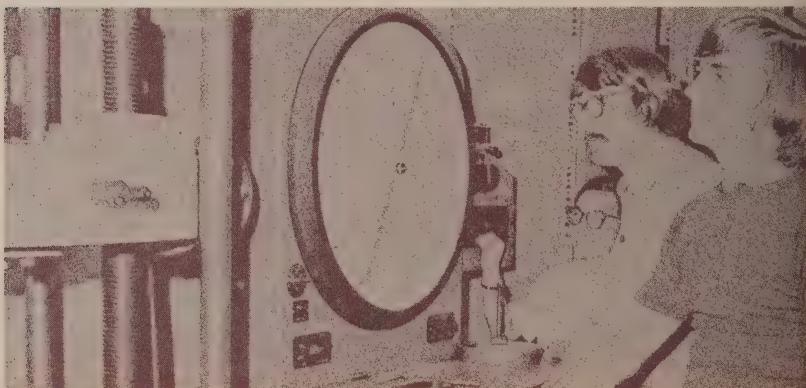
			<b>Hrs. Per Week</b>	<b>C</b>	<b>L</b>	<b>P</b>	<b>QH</b>
	<b>Course Title</b>						
	<b>FOURTH QUARTER</b>						
56	MEC 104 Applied Mechanics	5	0	0	0	5	
	MEC 210 Ferrous Metallurgy	3	0	3	0	4	
	MEC 235 Fluid Power	3	0	3	0	4	
	MAT 160 Engineering Computations	1	0	3	0	2	
		—					
		12	0	9	0	15	
	<b>FIFTH QUARTER</b>						
	ELC 205 Applied Electricity	3	2	0	0	4	
	MEC 205 Strength of Materials	3	2	0	0	4	
	MEC 211 Non-Ferrous Metallurgy and Heat Treatment	3	0	3	0	4	
	MEC 202 Manufacturing Processes II	2	0	6	0	4	
	ECO 102 Economics	3	0	0	0	3	
		—	—	—	—	—	
		14	4	9	0	19	
	<b>SIXTH QUARTER</b>						
	PSY 206 Applied Psychology	3	0	0	0	3	
	ISC 202 Quality Control	3	2	0	0	4	
	MEC 237 Control Systems	3	2	0	0	4	
	ISC 201 Industrial Organization and Management	3	0	0	0	3	
	ISC 203 Motion and Time Study	3	2	0	0	4	
		—	—	—	—	—	
		15	6	0	0	18	
	<b>SEVENTH QUARTER</b>						
	ISC 209 Plant Layout	3	2	0	0	4	
	ENG 103 Technical Report Writing	3	0	0	0	3	
	MEC 230 Plant Services	3	2	0	0	4	
	MEC Elective	2	0	3	0	3	
	MEC 203 Welding Processes	2	0	3	0	3	
		—	—	—	—	—	
		13	4	6	0	17	

C—Class

L—Lab

P—Practicum

QH—Quarter Hours Credit



# MECHANICAL DRAFTING AND DESIGN ENGINEERING TECHNOLOGY T-043

*Mechanical  
Drafting and  
Design  
Engineering  
Technology*  
57

Drafting is the language of industrial production, and draftsmen and designers are the language experts in this field. The technical draftsman is responsible for the design and graphical representation of the processes and materials of production. Individuals employed in this field are expected to use creative imagination in the design of tools, machines and machine parts which will facilitate production of goods. This rapidly expanding field offers opportunities which compare favorably with those in any other technical area.

The Drafting and Design program provides the students with an extensive background in the fundamentals of drafting and an understanding of the application of these principles to the design of machines, tools, dies, fixtures, cams, and gears. The course also provides a knowledge of manufactured products, and valuable information for those interested in selling metal products. Emphasis is placed upon the ability to think and plan, and not merely upon drafting techniques.

## CURRICULUM BY QUARTERS

Course Title		Hrs. Per Week			
		C	L	P	QH
<b>FIRST QUARTER</b>					
DFT 101	Technical Drafting I	2	0	6	4
MAT 101	Technical Mathematics I	5	0	0	5
MEC 101	Machine Processes I	1	0	6	3
ENG 100	Oral Communication	3	0	0	3
DFT 192	Orientation to Design Drafting	1	0	0	1
		—	—	—	—
		12	0	12	16

## SECOND QUARTER

DFT 102	Technical Drafting II	2	0	6	4
MAT 102	Technical Mathematics II	5	0	0	5
MEC 102	Machine Processes II	1	0	6	3
PHY 111	Physics: Mechanics	3	2	0	4
ENG 101	Introduction to Written Communication	3	0	0	3
		—	—	—	—
		14	2	12	19

## THIRD QUARTER

DFT 103	Technical Drafting III	2	0	6	4
MAT 103	Technical Mathematics III	5	0	0	5
PHY 112	Physics: Materials and Heat	3	2	0	4
ENG 102	Composition	3	0	0	3
MEC 201	Manufacturing Processes I	1	0	6	3
		—	—	—	—
		14	2	12	19

*Mechanical  
Drafting and  
Design*

*Engineering  
Technology*

58

**Course Title**

**FOURTH QUARTER**

<b>Course Title</b>		<b>Hrs. Per Week</b>				
		<b>C</b>	<b>L</b>	<b>P</b>		<b>QH</b>
DFT 205	Design Drafting I	2	0	6		4
DFT 260	Dimensioning & Tolerancing	1	0	3		2
MEC 104	Applied Mechanics	5	0	0		5
MEC 210	Ferrous Metallurgy	3	0	3		4
MEC 235	Fluid Power	3	0	3		4
		—	—	—		—
		14	0	15		19

**FIFTH QUARTER**

<b>FIFTH QUARTER</b>						
DFT 204	Descriptive Geometry	3	0	3	4	
DFT 206	Design Drafting II	2	0	6	4	
MEC 205	Strength of Materials	3	2	0	4	
ELC 205	Applied Electricity	3	2	0	4	
		—	—	—	—	
		11	4	9	16	

**SIXTH QUARTER**

<b>SIXTH QUARTER</b>						
DFT 223	Design Drafting III	3	0	6	5	
DFT 211	Mechanisms	3	0	3	4	
ENG 103	Technical Report Writing	3	0	0	3	
MEC 237	Control Systems	3	2	0	4	
		—	—	—	—	
		12	2	9	16	

**SEVENTH QUARTER**

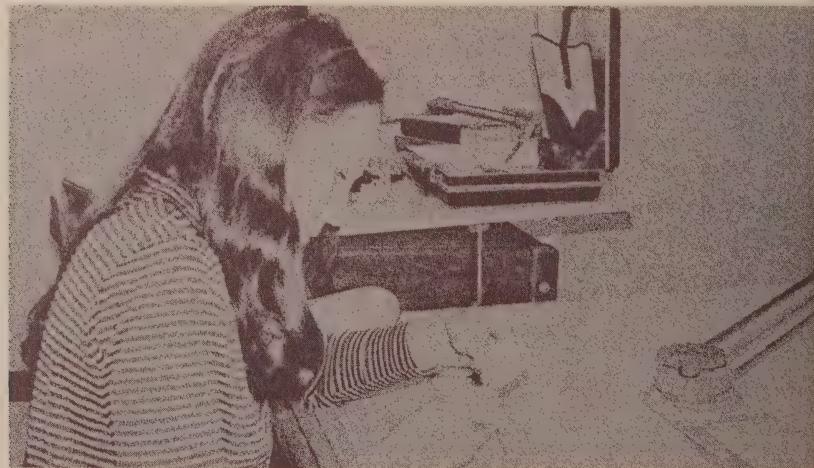
<b>SEVENTH QUARTER</b>						
DFT 212	Jig & Fixture Design	3	0	6	5	
DFT 224	Product Design	2	0	6	4	
PSY 206	Applied Psychology	3	0	0	3	
ISC 201	Industrial Organization & Management	3	0	0	3	
		—	—	—	—	
		11	0	12	15	

C-Class

L-Lab

P-Practicum

QH-Quarter Hours Credit



## NUCLEAR MEDICINE TECHNOLOGY T-104

*Nuclear  
Medicine  
Technology*  
59

Nuclear Medicine, the discipline concerned with the diagnosis, treatment and clinical investigation of disease utilizing internally administered radioisotopes and sophisticated electronic detecting equipment, is one of the most useful and rapidly growing branches of modern medicine.

The student is trained to perform all clinical nuclear medicine procedures and is provided with the basic background in physics, anatomy, physiology, mathematics, radiobiology, instrumentation, electronics and radiopharmaceuticals essential to the performance of work of superior quality.

Bowman Gray School of Medicine, North Carolina Baptist Hospital and Forsyth Memorial Hospital will provide the clinical experience for degree requirements.

### CURRICULUM BY QUARTERS

#### Suggested sequence of courses

Course Title		C	L	P	QH
<b>FIRST QUARTER</b>					
BIO 107	Anatomy and Physiology	3	2	0	4
CHM 103	Chemistry	3	2	0	4
ENG 100	Oral Communication	3	0	0	3
HEA 109	Health Services and Ethics	1	0	0	1
MAT 113	Mathematics	3	0	0	3
BIO 115	Medical Terminology I	1	0	0	1
		—	—	—	—
		14	4	0	16

#### SECOND QUARTER

BIO 108	Anatomy and Physiology	3	2	0	4
ENG 101	Introduction to Written Communication	3	0	0	3
HEA 116	Fundamentals of Patient Care	2	0	0	2
MAT 114	Mathematics	3	0	0	3
BIO 116	Medical Terminology II	1	0	0	1
PHY 105	Physics	3	0	0	3
		—	—	—	—
		15	2	0	16

#### THIRD QUARTER

HEA 107	First Aid	2	0	0	2
HEA 169	Fundamentals of Disease Processes	4	0	0	4
PHY 106	Physics	3	0	0	3
PSY 169	Social Psychology of Health and Illness	4	0	0	4
HEA 139	Topographical Anatomy	2	0	0	2
	Electives	2-6	0	0	2-6
		—	—	—	—
		17-21	0	0	17-21

*Nuclear  
Medicine  
Technology  
60*

<b>Course Title</b>		<b>Hrs. Per Week</b>	<b>C</b>	<b>L</b>	<b>P</b>	<b>QH</b>
<b>FOURTH QUARTER</b>						
NMT 125	Film Processing		2	2	0	3
NMT 117	Health Physics		1	0	0	1
NMT 116	Nuclear Physics		2	0	0	2
NMT 111	Principles of Nuclear Medicine		2	0	9	5
	Electives		3-6	0	0	3-6
			—	—	—	—
			10-13	2	9	14-17

**FIFTH QUARTER**

NMT 230	Nuclear Medicine Instrumentation		2	0	0	2
NMT 269	Practicum		0	0	30	10
NMT 221	Principles of Nuclear Medicine		2	0	0	2
NMT 223	Radiopharmaceuticals		2	0	0	2
			—	—	—	—
			6	0	30	16

**SIXTH QUARTER**

NMT 240	Nuclear Medicine Instrumentation		2	0	0	2
NMT 274	Practicum		0	0	30	10
NMT 231	Principles of Nuclear Medicine		2	0	0	2
NMT 233	Radiopharmaceuticals		2	0	0	2
			—	—	—	—
			6	0	30	16

**SEVENTH QUARTER**

NMT 238	Nuclear Medicine Chemistry		1	0	0	1
NMT 279	Practicum		0	0	36	12
NMT 241	Principles of Nuclear Medicine		2	0	0	2
NMT 289	Radiobiology		2	0	0	2
			—	—	—	—
			5	0	36	17

**EIGHTH QUARTER**

NMT 284	Practicum		0	0	39	13
NMT 251	Principles of Nuclear Medicine		2	0	0	2
			—	—	—	—
			2	0	39	15

Note: All registered radiologic technologists (R.T.) or registry eligible radiologic technologists may receive advanced standing.

C-Class

L-Lab

P-Practicum

QH-Quarter Hours Credit

# ORNAMENTAL HORTICULTURE T-009

*Ornamental  
Horticulture*  
61

The modern emphasis on outdoor living has created a greater interest in the use of ornamental plants in today's beauty-conscious society. The increased awareness of the value of ornamental plants in landscaping by government, industry, and home-owners has produced a greater demand for trained horticulture technicians.

The Ornamental Horticulture program is designed to give students a good understanding of principles, techniques, and skills which are a necessary foundation for the independent, creative thinking essential to success in this field. Successful completion of this program should qualify individuals for employment in supervision of nurseries and plantings, greenhouse operation, work related to processing and distribution, management of garden shops, supervision or maintenance of golf courses and sale of horticulture products.

## CURRICULUM BY QUARTERS

Course Title	Hrs. Per Week			
	C	L	P	QH
<b>FIRST QUARTER</b>				
ENG 100 Oral Communication	3	0	0	3
AGR 185 Soil Science and Fertilizer	5	2	0	6
CHM 101 Chemistry	4	2	0	5
AGR 254 Plant Propagation	3	2	0	4
	—	—	—	—
	15	6	0	18

## SECOND QUARTER

ENG 101 Introduction to Written Communication	3	0	0	3
AGR 170 Plant Science	4	2	0	5
AGR 201 Agricultural Chemicals	4	2	0	5
BUS 102 Typing I	2	0	3	3
	—	—	—	—
	13	4	3	16

## THIRD QUARTER

ENG 102 Composition	3	0	0	3
AGR 140 Home Maintenance	2	4	0	4
AGR 151 Plant Materials I	3	4	0	5
AGR 258 Turf Practices	3	4	0	5
	—	—	—	—
	11	12	0	17

Course Title	Hrs. Per Week			
	C	L	P	QH
<b>FOURTH QUARTER</b>				
AGR 152 Plant Materials II	3	4	0	5
AGR 256 Nursery Management I	2	4	0	4
AGR 251 Landscape Gardening I	3	4	0	5
ENG 103 Technical Report Writing	3	0	0	3
	—	—	—	—
	11	12	0	17

**FIFTH QUARTER**

AGR 257 Nursery Management II	2	4	0	4
AGR 252 Landscape Gardening II	3	4	0	5
MAT 110 Business Mathematics	5	0	0	5
AGR 259 Garden Center Management	1	2	0	2
	—	—	—	—
	11	10	0	16

**SIXTH QUARTER**

AGR 200 Supervised Work Experience	0	0	40	12
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**SEVENTH QUARTER**

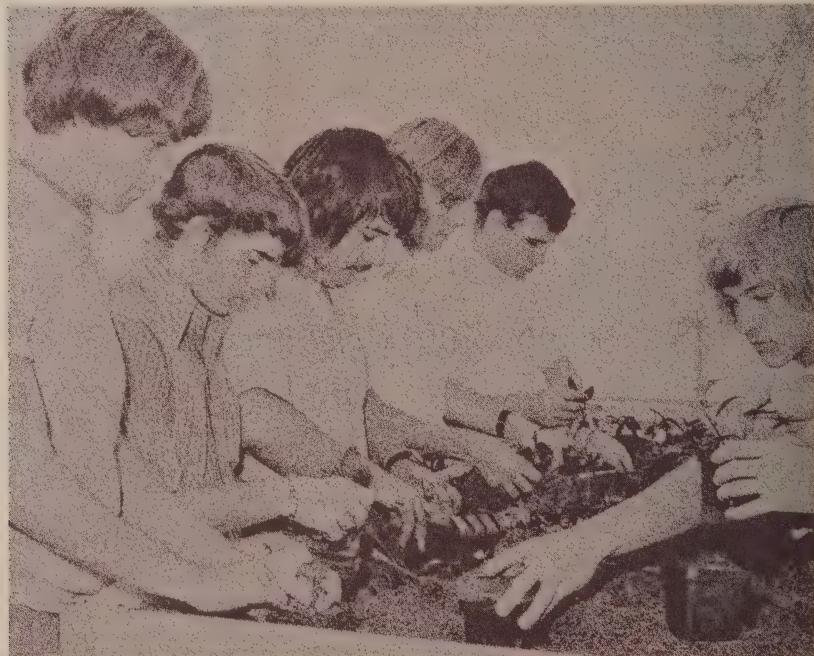
AGR 153 Greenhouse Management	3	2	0	4
AGR 145 Entomology & Pathology	3	4	0	5
AGR 240 Landscape Construction	4	2	0	5
ECO 102 Economics	3	0	0	3
	—	—	—	—

C-Class

L-Lab

P-Practicum

QH-Quarter Hours Credit



## POLICE SCIENCE TECHNOLOGY T-064

Police  
Science  
Technology  
63

Police agencies today are moving toward a professional status and law enforcement techniques have evolved from simple jobs requiring minimal qualifications to highly complex activities requiring a great capacity for highly specialized knowledge.

Police officers, both men and women, are charged with the responsibility of protecting life and property. Their responsibilities include preserving the peace, preventing criminal acts, enforcing the law, and apprehending the offenders.

Many opportunities are available for qualified individuals to enter police work. However, future opportunities may be determined to a greater degree by technological and scientific changes in the ever widening scope of law enforcement services.

The Police Science Technology program is designed to instruct the student in current law enforcement methods and in the behavioral sciences. It also provides a firm base of general education, including chemistry, mathematics, and language skills in developing proficiency in leadership necessary for employment at the operational or management level.

### CURRICULUM BY QUARTERS

Course Title	Hrs. Per Week				QH
	C	L	P	QH	
<b>FIRST QUARTER</b>					
MAT 110 Business Mathematics	5	0	0	5	
PSC 101 Introduction to Law Enforcement	5	0	0	5	
PSY 102 General Psychology	5	0	0	5	
	—	—	—	—	
	15	0	0	15	
<b>SECOND QUARTER</b>					
ENG 100 Oral Communication	3	0	0	3	
POL 102 Government — National	5	0	0	5	
PSC 220 Police Organization — Administration	5	0	0	5	
	—	—	—	—	
	13	0	0	13	
<b>THIRD QUARTER</b>					
ENG 101 Introduction to Written Communication	3	0	0	3	
POL 103 Government — State and Local	5	0	0	5	
PSC 110 Police Role in Crime and Delinquency	5	0	0	5	
PSC 120 Administration of Justice	3	0	0	3	
	—	—	—	—	
	16	0	0	16	

*Police  
Science  
Technology*

64	Course Title	Hrs. Per Week				QH
		C	L	P		
<b>FOURTH QUARTER</b>						
ENG 102	Composition	3	0	0		3
MAT 115	Police Mathematics	3	0	0		3
PSY 103	Adolescent Psychology	5	0	0		5
SOC 102	Principles of Sociology	5	0	0		5
		—	—	—		—
		16	0	0		16
<b>FIFTH QUARTER</b>						
CHM 101	Chemistry	4	2	0		5
ECO 102	Economics	3	0	0		3
ENG 103	Technical Report Writing	3	0	0		3
PSC 115	Criminal Law I	5	0	0		5
		—	—	—		—
		15	2	0		16
<b>SIXTH QUARTER</b>						
PSC 116	Criminal Law II	5	0	0		5
PSC 210	Criminalistics I	5	0	0		5
SOC 210	Minorities in American Society	5	0	0		5
		—	—	—		—
		15	0	0		15
<b>SEVENTH QUARTER</b>						
ENG 115	Appreciation of Literature	3	0	0		3
PSC 211	Criminalistics II	4	3	0		5
PSY 108	Abnormal Psychology	5	0	0		5
		—	—	—		—
		12	3	0		13

C—Class

L—Lab

P—Practicum

QH—Quarter Hours Credit



## RADIOLOGIC TECHNOLOGY T-061

*Radiologic  
Technology*  
65

During the first three quarters of Radiologic Technology training, the student will participate in a Core Curriculum for Allied Health Students. In this Core Curriculum, emphasis is placed upon the basic sciences and their relationship to the various fields of the medical profession.

Upon completion of this Core Curriculum, the student will begin a specialized study in the field of Radiologic Technology. Each student receives extensive training in the clinical use of ionizing radiation for diagnosis and treatment of injury and disease. The student will become proficient in the operation of all types of radiographic equipment and will gain a thorough knowledge of accessories and photographic principles to produce high quality radiographs. This knowledge is applied as a planned learning experience under the supervision of staff technologists at North Carolina Baptist Hospital, and Forsyth Memorial Hospital.

### CURRICULUM BY QUARTERS

#### Suggested sequence of courses

Course Title		Hrs. Per Week			
		C	L	P	QH
<b>FIRST QUARTER</b>					
BIO 107	Anatomy and Physiology	3	2	0	4
CHM 103	Chemistry	3	2	0	4
ENG 100	Oral Communication	3	0	0	3
MAT 113	Mathematics	3	0	0	3
HEA 109	Health Services and Ethics	1	0	0	1
BIO 115	Medical Terminology I	1	0	0	1
		—	—	—	—
		14	4	0	16

#### SECOND QUARTER

BIO 108	Anatomy and Physiology	3	2	0	4
ENG 101	Introduction to Written Communication	3	0	0	3
HEA 116	Fundamentals of Patient Care	2	0	0	2
MAT 114	Mathematics	3	0	0	3
BIO 116	Medical Terminology II	1	0	0	1
PHY 105	Physics	3	0	0	3
		—	—	—	—
		15	2	0	16

*Radiologic  
Technology*

66 THIRD QUARTER

				Hrs. Per Week			
				C	L	P	QH
HEA 107	First Aid			2	0	0	2
HEA 169	Fundamentals of Disease Processes			4	0	0	4
PHY 106	Physics			3	0	0	3
PSY 169	Social Psychology of Health and Illness			4	0	0	4
HEA 139	Topographical Anatomy			2	0	0	2
	Electives			2-6	0	0	2-6
				—	—	—	—
				17-21	0	0	17-21

FOURTH QUARTER

RDT 113	Departmental Orientation and Ethics (week 1) 4 hours			0	0	0	0
RDT 174	Elementary Radiological Protection (week 1) 4 hours			0	0	0	0
RDT 139	Positioning and Related Anatomy I			3	0	0	0
RDT 125	Radiographic Darkroom			2	0	0	3
RDT 137	Radiographic Technique I			3	0	0	2
RDT 116	Radiographic Terminology			1	0	0	3
RDT 138	Practicum I			0	0	30	10
RDT 161	Open Lab Practicum I			0	0	6	2
				—	—	—	—
				9	0	36	21

FIFTH QUARTER

RDT 289	Film Critique I			1	0	0	1
RDT 260	Pediatric Radiography			1	0	0	1
RDT 259	Positioning and Related Anatomy II			3	0	0	3
RDT 238	Practicum II			0	0	30	10
PHY 216	Radiation Physics			3	0	0	3
RDT 237	Radiographic Technique II			3	0	0	3
RDT 262	Open Lab Practicum II			0	0	6	2
				—	—	—	—
				11	0	36	23

SIXTH QUARTER

RDT 241	Contrast Media			1	0	0	1
RDT 280	Dental Radiography			1	0	0	1
RDT 290	Film Critique II			2	0	0	2
RDT 220	Operating Room Radiography			1	0	0	1
RDT 248	Practicum III			0	0	30	10
RDT 269	Positioning and Related Anatomy III			3	0	0	3
RDT 249	Radiation Protection			1	0	0	1
RDT 275	TV and Monitor Systems			1	0	0	1
RDT 263	Open Lab Practicum III			0	0	6	2
				—	—	—	—
				10	0	36	22

Course Title	Hrs. Per Week				Radiologic Technology 67
	C	L	P	QH	
<b>SEVENTH QUARTER</b>					
RDT 276 Equipment Maintenance	1	0	0	1	
RDT 291 Film Critique III	2	0	0	2	
RDT 204 Nuclear Medicine	2	0	0	2	
RDT 258 Practicum IV	0	0	30	10	
RDT 283 Radiographic Pathology	2	0	0	2	
RDT 233 Seminar I	1	0	0	1	
RDT 250 Special Procedures I	2	0	0	2	
RDT 264 Open Lab Practicum IV	0	0	6	2	
	—	—	—	—	
	10	0	36	22	

### EIGHTH QUARTER

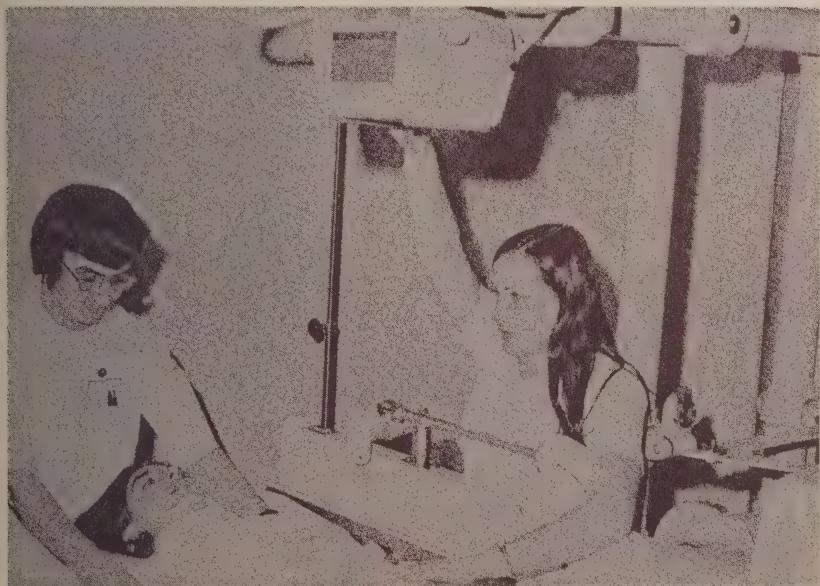
RDT 257 Departmental Administration	1	0	0	1
RDT 292 Film Critique IV	2	0	0	2
RDT 268 Practicum V	0	0	30	10
RDT 281 Radiation Therapy	2	0	0	2
RDT 234 Seminar II	1	0	0	1
RDT 252 Special Procedures II	2	0	0	2
RDT 265 Open Lab Practicum V	0	0	9	3
	—	—	—	—
	8	0	39	21

C-Class

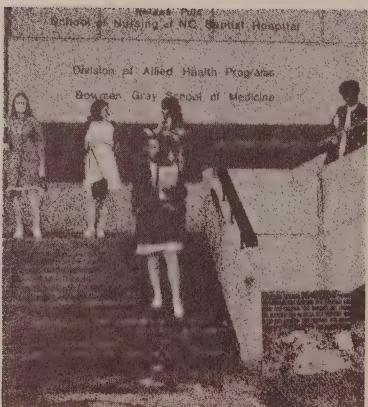
L-Lab

P-Practicum

QH-Quarter Hours Credit



Associate  
In Applied  
Science  
68





## PRE-TECHNICAL PROGRAM

## PRE-TECHNICAL PROGRAM T-099

This program is a full-time course of study which offers preparation, remediation, and guidance for students, who, for a variety of reasons, do not meet the specific entrance requirements for the regular curriculum program of their choice. Students who do meet the minimum entrance requirements but whose previous academic records indicate that they may have difficulty in successfully completing their programs are also advised to enter the Pre-Technical Program.

The student's academic program will be individually designed to meet his specific preparatory and remedial needs. The courses will be selected from the Pre-Technical offerings and from technical and/or vocational credit courses.

### PRE-TECHNICAL COURSE OFFERINGS

COURSE TITLE			C	L	P	QH*
BUS 002	Introduction to Business Occupations		2	0	0	0 (2)
BUS 010	Pre-Technical Accounting		5	0	0	0 (5)
BUS 020	Clerical Practice		3	1	0	0 (3)
BUS 030	Introduction to Shorthand		5	0	0	0 (5)
CHM 010	Pre-Tech Chemistry		3	2	0	0 (4)
ENG 010	Individualized English Grammar		3	2	0	0 (4)
ENG 020	Basic Reading Skills and Vocabulary		3	0	0	0 (3)
ENG 026	Clerical Communications		5	0	0	0 (5)
HEA 001	Introduction to Health Occupations		2	0	0	0 (2)
HEA 010	Human Anatomy		3	0	0	0 (3)
MAT 001	Structure of Arithmetic		5	0	0	0 (5)
MAT 002	Pre-Business Mathematics		5	0	0	0 (5)
MAT 003	Algebra		5	0	0	0 (5)
MAT 004	Pre-Technical Mathematics		5	0	0	0 (5)
MAT 005	Geometry		5	0	0	0 (5)
MAT 020	Mathematics for Health Education		3	0	0	0 (3)
MEC 001	Introduction to Engineering Technology		2	0	0	0 (2)
PHY 001	Pre-Technical Physics		3	2	0	0 (4)
SOC 100	Sociology I		0	4	0	2
SOC 101	Sociology II		0	4	0	2
SOC 010	Study Skills		2	0	0	0 (2)

\*Equivalent credit hours shown in parenthesis



## DIPLOMA PROGRAMS

## AIR CONDITIONING, REFRIGERATION AND HEATING V-024

During 1972, statewide licensing became mandatory for all installation and major servicing of domestic central heating and cooling systems. In cities of 10,000 population and over, a state license is now required for installers of most commercial refrigeration equipment. These and other stricter regulations are dramatic proof of the expanding activity and complexity in this field. It is reasonable to conclude, therefore, that a licensed service man is commanding higher pay and better opportunity compared to an unlicensed worker. This program, besides preparing a graduate to take the state board examinations, enables him to find immediate employment in a wide choice of jobs, which include apartment maintenance, industrial maintenance, commercial refrigeration, domestic appliances and servicing, sales engineering, self-employment, and — thanks to the growing number of cars with factory-installed air conditioners — the automotive field.

### CURRICULUM BY QUARTERS

Course Title	Hrs. Per Week			
	C	L	P	QH
<b>FIRST QUARTER</b>				
AHR 1102 Fundamentals of Refrigeration	7	0	9	10
WLD 1111 Air Conditioning Welding	1	0	3	2
MAT 1102 Algebra	5	0	0	5
PHY 1103 Fundamentals of Electricity	3	2	0	4
	—	—	—	—
	16	2	12	21

### SECOND QUARTER

AHR 1103 Domestic and Commercial Refrigeration	6	0	12	10
ELC 1111 Applied Electricity	3	2	0	4
DFT 1101 Schematics and Diagrams	0	0	3	1
ENG 1101 Communications I	3	0	0	3
	—	—	—	—
	12	2	15	18

### THIRD QUARTER

AHR 1104 Air Conditioning Controls I	5	0	3	6
AHR 1105 Principles of Air Conditioning	5	0	9	8
PHY 1115 Science for AHR	3	2	0	4
ENG 1112 Communications II	3	0	0	3
	—	—	—	—
	16	2	12	21

Course Title		Hrs. Per Week				Air Conditioning Refrigeration and Heating 73
		C	L	P	QH	
<b>FOURTH QUARTER</b>						
AHR 1106	Air Conditioning Controls II	3	0	0	3	
HET 1101	Heating Systems	6	0	15	11	
PSY 1101	Human Relations	3	0	0	3	
BUS 1103	Small Business Operations	3	0	0	3	
		—	—	—	—	
		15	0	15	20	

C-Class

L-Lab

S-Shop

QH-Quarter Hours Credit



## AUTOMOTIVE BODY REPAIR V-001

Graduates of this program are qualified for jobs in which they remove dents in car and truck bodies and fenders; remove and replace various sheet metal parts; straighten frames, doors, hoods, and deck lids; operate four kinds of welding equipment; shrink stretched metal and prepare it for painting; paint fenders and panels, as well as a complete vehicle, with any of a number of paints and thinners. At the same time, the student is taught to interpret blueprints, charts, service manuals and wiring diagrams, and to prepare repair orders and make estimates and statements for adjustors. Much of the student's time in the shop is spent learning skills and practicing them under circumstances that closely match those met on the job. After gaining experience, many graduates open their own businesses or become body shop foremen, supervisors, or managers.

## CURRICULUM BY QUARTERS

Course Title	Hrs. Per Week				QH
	C	L	P		
<b>FIRST QUARTER</b>					
AUT 1111 Automotive Body Repair	3	0	12		7
MAT 1101 Fundamentals of Mathematics	5	0	0		5
ENG 1101 Communications I	3	0	0		3
WLD 1130 Applied Basic Arc and Gas Welding	1	0	6		3
	—	—	—		—
	12	0	18		18
<b>SECOND QUARTER</b>					
AUT 1112 Automotive Body Repair	3	0	15		8
WLD 1102 Applied Metal Preparation and Welding	1	0	3		2
PHY 1101 Applied Science I	3	2	0		4
ENG 1112 Communications II	3	0	0		3
	—	—	—		—
	10	2	18		17
<b>THIRD QUARTER</b>					
AUT 1113 Metal Finishing and Painting	2	0	12		6
PSY 1101 Human Relations	3	0	0		3
WLD 1131 Applied Inert Gas Welding	2	0	3		3
AUT 1114 Frame Straightening and Alignment	2	0	6		4
	—	—	—		—
	9	0	21		16
<b>FOURTH QUARTER</b>					
BUS 1103 Small Business Operations	3	0	0		3
DFT 1101 Schematics and Diagrams	0	0	3		1
AUT 1115 Body Shop Applications	3	0	21		10
	—	—	—		—
	6	0	24		14

C-Class

L-Lab

S-Shop

QH-Quarter Hours Credit

# AUTOMOTIVE MECHANICS V-003

Automotive  
Mechanics  
75

The Automotive Mechanics curriculum is designed to take the student without any automotive experience and teach him the many tools used for service and repairs of the automobile. He is taught, in each phase of the auto program, the construction, purpose and detail operation of each component so that he will have a better understanding of how to service and repair these components. He is also taught the operation and use of equipment that he will encounter in the service field when on the job. By using live autos and proper equipment, the student deals with the actual problems he will confront when servicing the public as a repair man.

## CURRICULUM BY QUARTERS

Course Title		Hrs. Per Week			
		C	L	P	QH
<b>FIRST QUARTER</b>					
PME 1101	Internal Combustion Engines	4	0	15	9
PME 1103	Automobile Fuel Systems	1	0	3	2
BUS 1103	Small Business Operations	3	0	0	3
MAT 1101	Fundamentals of Mathematics	5	0	0	5
		—	—	—	—
		13	0	18	19
<b>SECOND QUARTER</b>					
AUT 1123	Automotive Chassis and Suspension Systems	4	0	15	9
WLD 1101	Basic Gas Welding	1	0	3	2
ENG 1101	Communications I	3	0	0	3
PHY 1101	Applied Science I	3	2	0	4
		—	—	—	—
		11	2	18	18
<b>THIRD QUARTER</b>					
PME 1102	Automotive Electrical Systems	4	0	15	9
AHR 1101	Automotive Air Conditioning	2	0	3	3
ENG 1112	Communications II	3	0	0	3
DFT 1101	Schematics and Diagrams	0	0	3	1
		—	—	—	—
		9	0	21	16
<b>FOURTH QUARTER</b>					
AUT 1124	Automotive Power Trains	4	0	9	7
AUT 1125	Automotive Servicing	3	0	12	7
PSY 1101	Human Relations	3	0	0	3
		—	—	—	—
		10	0	21	17

C-Class

L-Lab

S-Shop

QH-Quarter Hours Credit

## BUILDING TRADES DRAFTING V-015

This program prepares individuals to do drafting for the building industry. Courses are arranged in sequence to develop drafting skills and proficiency in mathematics and science. Emphasis is on gaining experience with actual problems rather than hypothetical ones. The building trades draftsman performs the general duties of a draftsman and specializes in organizing and making detail and working drawings of structures and mechanical equipment from preliminary sketches of the designer. He uses knowledge of various machines, engineering practices, building materials, and other physical sciences to complete the drawings.

## CURRICULUM BY QUARTERS

Course Title		Hrs. Per Week	C	L	P	QH
<b>FIRST QUARTER</b>						
DFT 1121	Drafting I	4	0	12		8
MAT 1102	Algebra	5	0	0		5
PHY 1101	Applied Science I	3	2	0		4
DFT 1144	Building Materials and Methods	3	0	0		3
		—	—	—	—	—
		15	2	12		20
<b>SECOND QUARTER</b>						
DFT 1122	Drafting II	4	0	12		8
DFT 1125	Descriptive Geometry	2	0	3		3
ENG 1101	Communications I	3	0	0		3
MAT 1103	Geometry	3	0	0		3
		—	—	—	—	—
		12	0	15		17
<b>THIRD QUARTER</b>						
DFT 1141	Drafting III	4	0	15		9
DFT 1143	Building Mechanical Equipment	3	0	0		3
MAT 1104	Trigonometry	3	0	0		3
PHY 1104	Applied Science III: Light and Sound	3	2	0		4
		—	—	—	—	—
		13	2	15		19
<b>FOURTH QUARTER</b>						
DFT 1142	Drafting IV	4	0	15		9
CIV 1101	Surveying	2	0	3		3
BUS 1106	Free Enterprise System	3	0	0		3
ENG 1112	Communications II	3	0	0		3
		—	—	—	—	—
		12	0	18		18

C-Class

L-Lab

S-Shop

QH-Quarter Hours Credit

# CARPENTRY V-007

*Carpentry*  
77

Carpentry is one of the basic trades in the construction industry. Using hand and power tools, carpenters construct, erect, install, and repair structures of wood, plywood, wallboard, and other materials. Finished work must conform to local building codes both for residential and commercial structures. Examples of specialization are layout carpenter, framing carpenter, concrete form carpenter, scaffolding carpenter, acoustical and insulating carpenter, and finish carpenter. The carpentry curriculum provides the student a background with which to enter the trade as an apprentice. For every hour in the classroom, the student spends more than two hours developing shop skills on and off the campus.

## CURRICULUM BY QUARTERS

Course Title		C	L	P	QH
<b>FIRST QUARTER</b>					
CAR 1101	Framing, Sheathing, and Insulation I	2	0	18	8
MAT 1113	Carpenter's Mathematics and Estimating	5	0	0	5
DFT 1110	Blueprint Reading I	0	0	3	1
ENG 1101	Communications I	3	0	0	3
		—	—	—	—
		10	0	21	17
<b>SECOND QUARTER</b>					
CAR 1102	Framing, Sheathing, and Insulation II	3	0	18	9
MAT 1114	Carpenter's Mathematics and Estimating	3	0	0	3
DFT 1111	Blueprint Reading II	0	0	3	1
PSY 1101	Human Relations	3	0	0	3
		—	—	—	—
		9	0	21	16
<b>THIRD QUARTER</b>					
CAR 1103	Interior and Exterior Trim	3	0	21	10
CAR 1114	Building Codes	3	0	0	3
BUS 1103	Small Business Operations	3	0	0	3
		—	—	—	—
		9	0	21	16
<b>FOURTH QUARTER</b>					
CAR 1105	Finish Work	6	0	21	13
ENG 1112	Communications II	3	0	0	3
		—	—	—	—
		9	0	21	16

C-Class

L-Lab

S-Shop

QH—Quarter Hours Credit

## DIESEL TRUCK MAINTENANCE AND REPAIR V-013

The diesel mechanics keep bulldozers, tractors, trucks and other diesel-powered equipment in top running order for farms and industry. Most diesel mechanics specialize in one of these kinds of diesel equipment.

The program at Forsyth Technical Institute trains students to enter the maintenance division of the trucking industry, and the scope and nature of shop work offered match closely that of the trucking industry itself. The repair and maintenance of late-model trucks and component parts obtained from industry assure the student of learning his craft on equipment similar to what he will encounter upon graduation, and his working with hand tools and reconditioning and testing equipment currently used in the trucking industry further eases his transition from instruction to industry.

### CURRICULUM BY QUARTERS

Course Title		Hrs. Per Week	C	L	P	QH
<b>FIRST QUARTER</b>						
DSL 1101	Diesel Engines	4	0	15	9	
WLD 1101	Basic Gas Welding	1	0	3	2	
PHY 1101	Applied Science I	3	2	0	4	
ENG 1101	Communications I	3	0	0	3	
		—	—	—	—	
		11	2	18	18	
<b>SECOND QUARTER</b>						
DSL 1102	Diesel Electrical and Fuel Systems	4	0	15	9	
AHR 1101	Automotive Air Conditioning	2	0	3	3	
MAT 1101	Fundamentals of Mathematics	5	0	0	5	
DFT 1101	Schematics and Diagrams	0	0	3	1	
		—	—	—	—	
		11	0	21	18	
<b>THIRD QUARTER</b>						
DSL 1103	Diesel Fuel Injection	2	0	6	4	
DSL 1104	Power Trains, Chassis & Suspension Systems	4	0	15	9	
ENG 1112	Communications II	3	0	0	3	
		—	—	—	—	
		9	0	21	16	

**Course Title****FOURTH QUARTER**

DSL 1105 Diesel Servicing  
MEC 1120 Machine Processes  
BUS 1106 Free Enterprise System

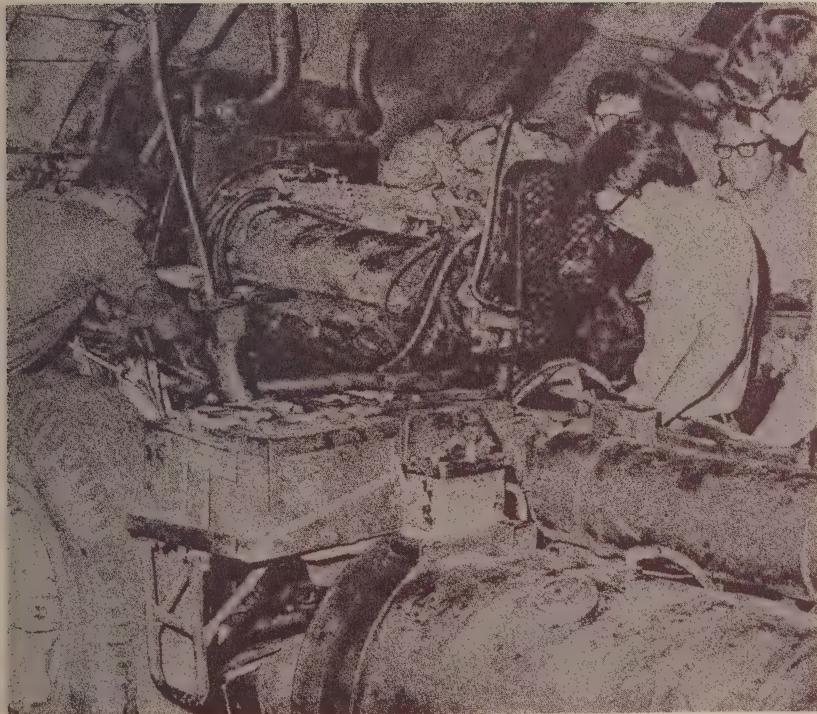
	<b>Hrs. Per Week</b>			<b>Diesel Truck Maintenance and Repair</b>
	<b>C</b>	<b>L</b>	<b>P</b>	
DSL 1105 Diesel Servicing	5	0	15	10
MEC 1120 Machine Processes	1	0	6	3
BUS 1106 Free Enterprise System	3	0	0	3
	—	—	—	—
	9	0	21	16

C-Class

L-Lab

S-Shop

QH-Quarter Hours Credit



## ELECTRICAL INSTALLATION V-018

80

The rapid development and increased use of new products, together with the expanding economy, are demanding more and better qualified workers to install and maintain electrical equipment. This program provides the basic knowledge and practices needed to enter an electrical trade as an on-the-job trainee; and the more than 500 hours a student spends on actual work sites before graduation reduces significantly his apprenticeship training afterwards. Through classroom, shop, and laboratory instruction and experience, a student learns the basics of motor and motor control systems, industrial electronic control systems, business procedures, and communications skills; and he will understand the National Electrical Code as it relates to wiring, electrical circuits, and the measurements of voltage, current, power, and power factor of single and polyphase alternating circuits. Persons entering this program should have a strong mathematics background, including at least one year of algebra.

### CURRICULUM BY QUARTERS

Course Title	Hrs. Per Week				QH
	C	L	P		
<b>FIRST QUARTER</b>					
ELC 1112 Direct and Alternating Current	5	0	12	9	
ENG 1101 Communications I	3	0	0	3	
MAT 1116 Electrical Mathematics	5	0	0	5	
PHY 1101 Applied Science I	3	2	0	4	
	—	—	—	—	
	16	2	12	21	

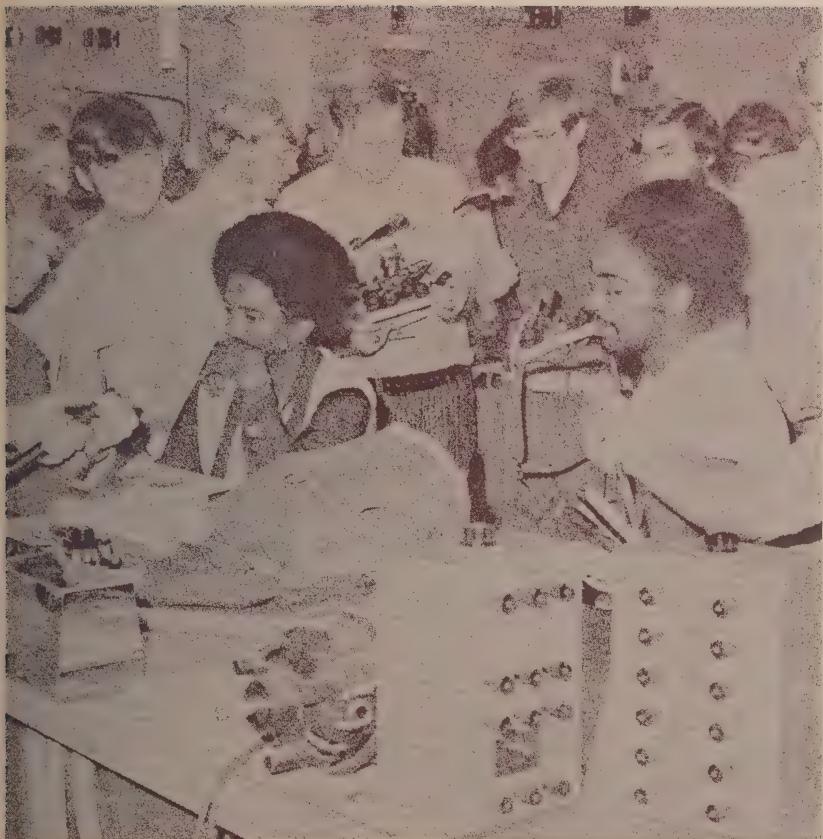
### SECOND QUARTER

ELC 1113 Alternating Current and Direct Current Machines and Controls	5	0	15	10
DFT 1110 Blueprint Reading: Building Trades	0	0	3	1
ENG 1112 Communications II	3	0	0	3
PHY 1102 Applied Science II	3	2	0	4
	—	—	—	—
	11	2	18	18

### THIRD QUARTER

ELC 1124 Residential Wiring	6	0	9	9
ELN 1118 Industrial Electronics	3	0	6	5
PSY 1101 Human Relations	3	0	0	3
DFT 1113 Blueprint Reading: Electrical	0	0	3	1
	—	—	—	—
	12	0	18	18

Course Title		C	L	P	QH	Electrical Installation 81
<b>FOURTH QUARTER</b>						
ELC 1125	Commercial and Industrial Wiring	5	0	13	9	
ELN 1119	Industrial Electronics	3	0	6	5	
BUS 1103	Small Business Operations	3	0	0	3	
		—	—	—	—	
C-Class		11	0	19	17	
L-Lab						
P-Practicum						
QH-Quarter Hours Credit						



Printing is the second largest industry in the United States in terms of the number of existing establishments.

Printing is carried on everywhere; all over the world. Wherever there is civilization, there is printing. The printer can be employed on a weekly newspaper in a small town, or he can work in one of the huge plants in larger cities.

Working conditions are, as a rule, good. Work, especially on the newspapers, is steady and there are no seasonal layoffs as there are in some other industries.

This curriculum is designed to give students experience in a cluster of activities representing basic areas of the graphic arts industry. The range of experiences is sufficient to enable students to understand a variety of graphic arts processes and to develop skills enabling them to perform these processes with a high degree of efficiency. The print shop is large and well lighted, and the equipment is the most modern which can be obtained.

### CURRICULUM BY QUARTERS

Course Title	Hrs. Per Week				QH
	C	L	P	QH	
<b>FIRST QUARTER</b>					
PRN 1112 Printing Orientation	2	0	6	4	
PRN 1130 Layout and Design	2	0	3	3	
PRN 1128 Copy Preparation I	2	0	3	3	
MAT 1150 Printer's Mathematics	5	0	0	5	
PRN 1101 Printer's English	3	0	0	3	
BUS 1122 Typing I	2	0	3	3	
	—	—	—	—	21
	16	0	15		

### SECOND QUARTER

PRN 1126 Offset Presswork I	2	0	6	4
PRN 1125 Offset Camera I	3	0	6	5
PRN 1124 Offset Stripping and Platemaking	2	0	6	4
PHY 1114 Science for Printers	3	2	0	4
	—	—	—	—
	10	2	18	17

### THIRD QUARTER

PRN 1129 Copy Preparation II	3	0	6	5
PRN 1113 Offset Camera II	3	0	6	5
PRN 1127 Offset Presswork II	3	0	6	5
ENG 1101 Communications I	3	0	0	3
	—	—	—	—
	12	0	18	18

Course Title		Hrs. Per Week				Graphic Arts
		C	L	P	QH	
<b>FOURTH QUARTER</b>						
PRN 1140	Elective	0	0	21	7	
PRN 1114	Estimating I	5	0	0	5	
BUS 1103	Small Business Operations	3	0	0	3	
ENG 1112	Communications II	3	0	0	3	
		—	—	—	—	
		11	0	21	18	

C-Class

L-Lab

P-Practicum

QH-Quarter Hours Credit



## MACHINIST V-032

If there is any one worker indispensable to manufacturing, it is probably the machinist; for it is he who forms into steel the idea on the engineer's blueprint. The grinding, milling, and lathing of these complex parts require rare skill, and most employers want to hire only the well trained. This reduces on-the-job training time, results in higher starting salaries, and makes for faster advancement and job success. The machinist program is both broad and detailed — broad enough to permit the graduate to fill a number of jobs in a company's machine shop, detailed enough to ensure that he understands the work fully. The demand for machinists is much greater than the supply. For the person who likes to work with his hands, where precision rules, who delights in fashioning from formless metal an engine piston, a missile part, or perhaps a surgical tool, the machinist field offers satisfaction and challenge.

## CURRICULUM BY QUARTERS

Course Title	Hrs. Per Week				QH
	C	L	P		
<b>FIRST QUARTER</b>					
MEC 1101 Machine Shop Theory and Practice I	3	0	12	7	
MAT 1101 Fundamentals of Mathematics	5	0	0	5	
DFT 1104 Blueprint Reading: Mechanical I	0	0	3	1	
WLD 1101 Basic Gas Welding	1	0	3	2	
BUS 1106 Free Enterprise System	3	0	0	3	
	—	—	—	—	
	12	0	18	18	
<b>SECOND QUARTER</b>					
MEC 1102 Machine Shop Theory and Practice II	3	0	12	7	
MAT 1102 Algebra	5	0	0	5	
PHY 1101 Applied Science I	3	2	0	4	
DFT 1105 Blueprint Reading: Mechanical II	0	0	3	1	
MEC 1115 Treatment of Ferrous Metals	2	0	3	3	
	—	—	—	—	
	13	2	18	20	
<b>THIRD QUARTER</b>					
MEC 1103 Machine Shop Theory and Practice III	4	0	12	8	
DFT 1106 Blueprint Reading: Mechanical III	0	0	3	1	
MAT 1103 Geometry	3	0	0	3	
ENG 1101 Communications I	3	0	0	3	
MEC 1116 Treatment of Non-Ferrous Metals	2	0	3	3	
	—	—	—	—	
	12	0	18	18	
<b>FOURTH QUARTER</b>					
MEC 1104 Machine Shop Theory and Practice IV	4	0	15	9	
MAT 1104 Trigonometry	3	0	0	3	
PHY 1102 Applied Science II	3	2	0	4	
ENG 1112 Communications II	3	0	0	3	
	—	—	—	—	
	13	2	15	19	

C-Class

L-Lab

P-Practicum

QH-Quarter Hours Credit

# MECHANICAL DRAFTING V-017

*Mechanical  
Drafting*  
85

The first two quarters of the Mechanical Drafting program contain courses basic to all fields of drafting. The third and fourth quarters contain specialization and related courses that prepare one to enter mechanical drafting occupations.

Each course is prepared to enable an individual to advance rapidly in drafting proficiency upon entering the field of work. Courses are arranged in sequence to develop drafting skills and proficiency in mathematics and science. The draftsman associates with many levels of personnel — administrators, architects, engineers, skilled workmen — and must be able to communicate effectively with them. Courses to develop knowledge and skills in communication, human relations, economics, and industrial organization are provided to assist the student in developing understanding and confidence in his relations with other persons.

## CURRICULUM BY QUARTERS

Course Title	Hrs. Per Week			
	C	L	P	QH
<b>FIRST QUARTER</b>				
DFT 1121 Drafting I	4	0	12	8
MAT 1102 Algebra	5	0	0	5
ENG 1101 Communications I	3	0	0	3
PHY 1101 Applied Science I	3	2	0	4
	—	—	—	—
	15	2	12	20
<b>SECOND QUARTER</b>				
DFT 1122 Drafting II	4	0	12	8
MAT 1103 Geometry	3	0	0	3
DFT 1125 Descriptive Geometry	2	0	3	3
PHY 1102 Applied Science II	3	2	0	4
	—	—	—	—
	12	2	15	18
<b>THIRD QUARTER</b>				
DFT 1131 Mechanical Drafting	2	0	12	6
MAT 1104 Trigonometry	3	0	0	3
MEC 1115 Treatment of Ferrous Metals	2	0	3	3
MEC 1113 Shop Processes	2	0	3	3
ENG 1112 Communications II	3	0	0	3
	—	—	—	—
	12	0	18	18

*Mechanical  
Drafting*  
86

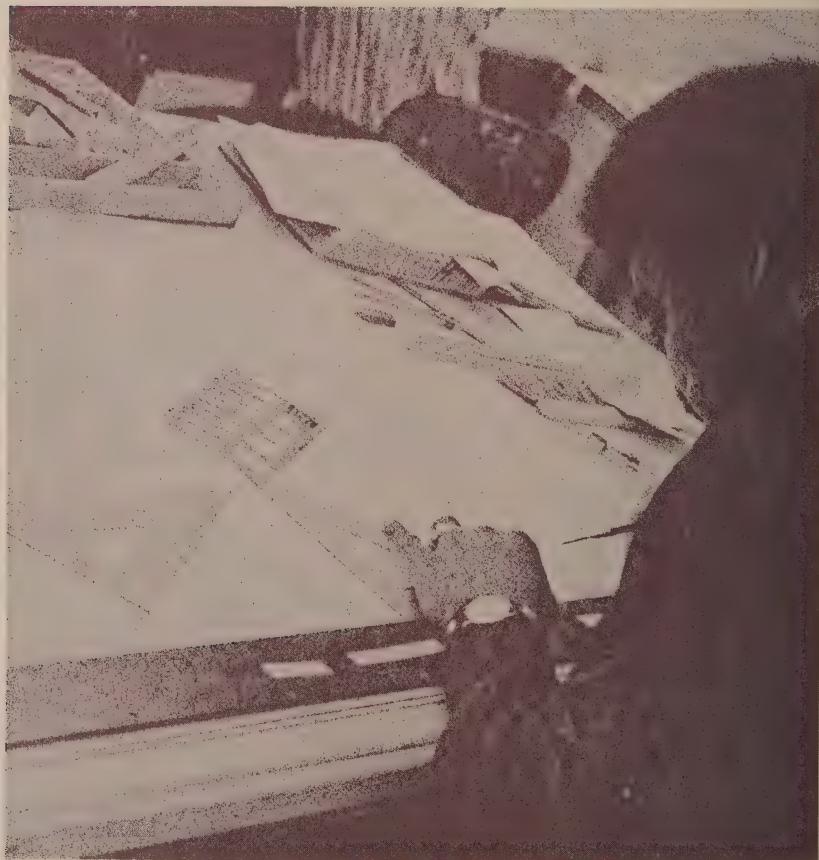
Course Title	Hrs. Per Week			
	C	L	P	QH
<b>FOURTH QUARTER</b>				
DFT 1132 Mechanical Drafting	2	0	12	6
MEC 1116 Treatment of Non-Ferrous Metals	2	0	3	3
MEC 1114 Shop Processes	2	0	3	3
BUS 1105 Industrial Organizations	3	0	0	3
PSY 1101 Human Relations	3	0	0	3
	—	—	—	—
	12	0	18	18

C—Class

L—Lab

P—Practicum

QH—Quarter Hours Credit



# PLUMBING AND HEATING V-037

Plumbing  
and Heating  
87

One has only to look about him to observe the startling number of new structures going up, commercial, industrial, and domestic. Every such building has pipe systems, which carry water, steam, air, or other liquids and gases needed for sanitation, heating and industrial production; and each pipe system requires plumbers and pipefitters, not only to install it but to keep it operating. This program trains the individual to enter this field with the theoretical knowledge he needs to understand new systems, as well as old, and the practical experience that enables him to become a journeyman in minimum time.

## CURRICULUM BY QUARTERS

Course Title		Hrs. Per Week	C	L	P	QH
<b>FIRST QUARTER</b>						
PLU 1116	Plumbing Pipework and Domestic Water Systems		5	0	15	10
DFT 1110	Blueprint Reading I		0	0	3	1
MAT 1117	Plumber's Arithmetic		4	0	0	4
PSY 1101	Human Relations		3	0	0	3
			—	—	—	—
			12	0	18	18
<b>SECOND QUARTER</b>						
WLD 1101	Basic Gas Welding		1	0	3	2
PLU 1125	Industrial Piping		2	0	6	4
PLU 1126	Hydraulic Systems Plumbing		2	0	3	3
PLU 1130	Plumbing Layouts and Codes		4	0	6	6
ENG 1101	Communications I		3	0	0	3
			—	—	—	—
			12	0	18	18
<b>THIRD QUARTER</b>						
BUS 1103	Small Business Operations		3	0	0	3
PLU 1123	Hot Water and Panel Heating		3	0	7	5
PLU 1122	Low and High Pressure Steam Systems		5	0	12	9
			—	—	—	—
			11	0	19	17
<b>FOURTH QUARTER</b>						
PLU 1112	Plumbing Fixtures and Installations		2	0	3	3
DFT 1112	Drafting I: Plumbing		1	0	3	2
PLU 1120	Plumbing Maintenance and Trouble Shooting		3	0	18	9
			—	—	—	—
			6	0	24	14

C-Class

L-Lab

P-Practicum

QH-Quarter Hours Credit

## PRACTICAL NURSE EDUCATION V-038

The Practical Nursing student receives one year (four quarters) of classroom instruction and nursing practice through the Practical Nurse Education Programs, sponsored by the Department of Community Colleges, State Board of Education, Vocational Technician Division, and accredited yearly by the North Carolina Board of Nursing.

Following one quarter of classroom instruction in fundamentals of nursing and principles from the biological and social sciences, the student has the opportunity to practice nursing skills under faculty supervision in the hospital area. In advanced quarters, she studies the nursing care of patients of all ages through carefully planned assignments correlated with classroom instruction in medical-surgical nursing, care of the sick child, and care of the mother and newborn infant.

A satisfactory grade on the North Carolina Board of Nursing Examination is necessary for employment in North Carolina health agencies as a Licensed Practical Nurse.

### CURRICULUM BY QUARTERS

Course Title		Hrs. C	Per Week L	P	QH
FIRST QUARTER					
PNE	1101 Fundamentals of Practical Nursing	6	0	6	8
PNE	1102 Nutrition and Diet Therapy	2	0	0	2
PNE	1103 Anatomy and Physiology	3	0	0	3
PSY	1101 Human Relations	3	0	0	3
PNE	1105 Introduction to Drug Administration	2	0	0	2
MAT	1100F Mathematics for PNE	2	0	0	2
		—	—	—	—
		18	0	6	20
SECOND QUARTER					
PNE	1106 Medical-Surgical Nursing I	5	0	0	5
PNE	1107 Maternity Nursing	2	0	0	2
PNE	1108 Nursing of Children	3	0	0	3
PNE	1109 Clinical Experience	0	0	24	8
		—	—	—	—
		10	0	24	18
THIRD QUARTER					
PNE	1110 Medical-Surgical Nursing II	5	0	0	5
PNE	1111 Drug Therapy	2	0	0	2
PNE	1112 Clinical Experience	0	0	24	8
ENG	1101 Communications I	3	0	0	3
		—	—	—	—
		10	0	24	18

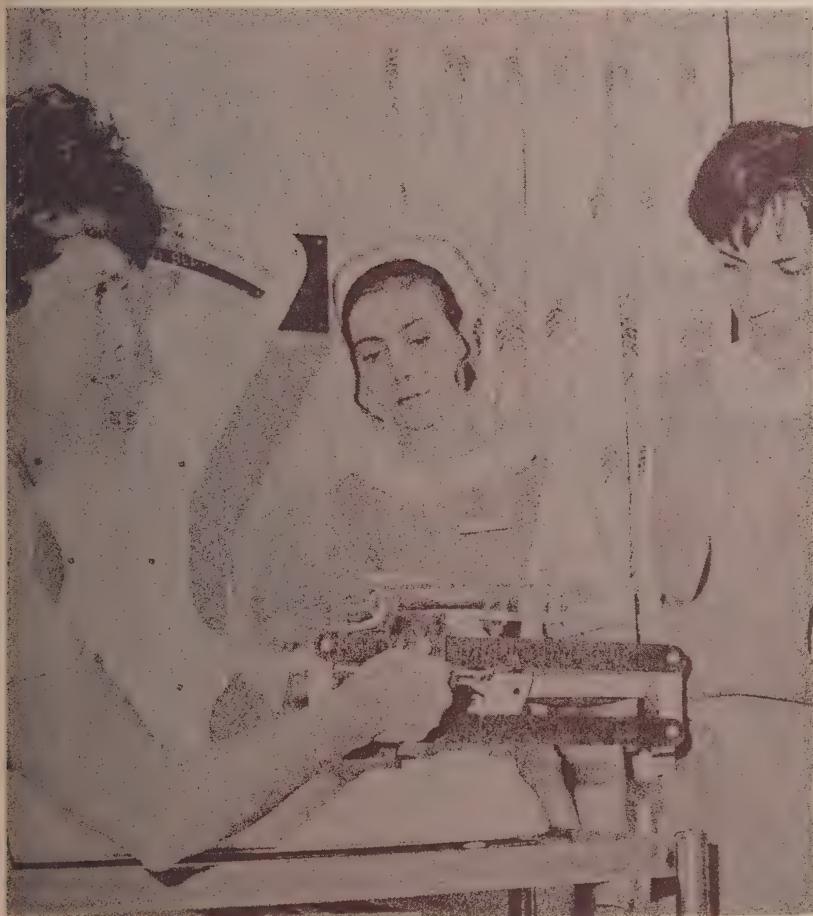
<b>Course Title</b>		<b>Hrs. Per Week</b>				<i>Practical Nurse Education</i>
		<b>C</b>	<b>L</b>	<b>P</b>	<b>QH</b>	
<b>FOURTH QUARTER</b>						
PNE 1113	Medical-Surgical Nursing III	5	0	0	5	
PNE 1114	Clinical Experience	0	0	24	8	
PNE 1115	Personal and Vocational Relationships	2	0	0	2	
ENG 1112	Communications II	3	0	0	3	
		—	—	—	—	
		10	0	24	18	

C-Class

L-Lab

P-Practicum

QH-Quarter Hours Credit



## TELEVISION SERVICING V-042

Lest anyone overlook the importance of television servicing, let him answer only two questions: How many people have and use television receivers? and How many people who have and use television receivers can repair one when it needs repairing? In the difference between these two numbers lies the opportunity in entering television servicing. The television repair program includes instruction in the basic knowledge and skills required to install, maintain and service television receivers. Laboratory work in circuitry, schematic diagrams and troubleshooting supplements classroom instruction and demonstration. During the final quarter, intensive work in servicing color television sets reflects their growing popularity.

### CURRICULUM BY QUARTERS

Course Title		Hrs. Per Week			
	C	L	P	QH	
<b>FIRST QUARTER</b>					
ELC 1120	Direct and Alternating Current	8	8	6	14
MAT 1115	Elements of Mathematics	5	0	0	5
ENG 1101	Communications I	3	0	0	3
		—	—	—	—
		16	8	6	22
<b>SECOND QUARTER</b>					
ELN 1121	Vacuum Tubes and Circuits	4	4	3	7
ELN 1122	Transistor Theory and Circuits	6	4	6	10
ENG 1112	Communications II	3	0	0	3
		—	—	—	—
		13	8	9	20
<b>THIRD QUARTER</b>					
ELN 1123	Black and White Television Servicing	10	6	9	16
PHY 1104	Applied Science: Light and Sound	3	2	0	4
		—	—	—	—
		13	8	9	20
<b>FOURTH QUARTER</b>					
ELN 1124	Color Television Servicing	10	8	9	17
BUS 1103	Small Business Operations	3	0	0	3
		—	—	—	—
		13	8	9	20

C—Class

L—Lab

P—Practicum

QH—Quarter Hours Credit

# WELDING AND METAL FABRICATION V-050

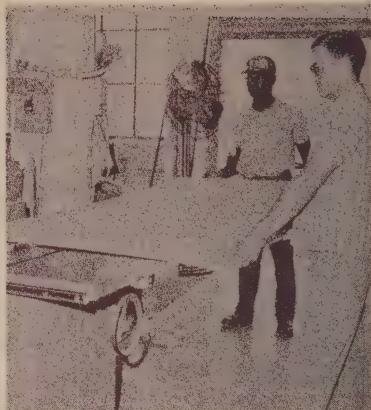
*Welding  
and Metal  
Fabrication*  
91

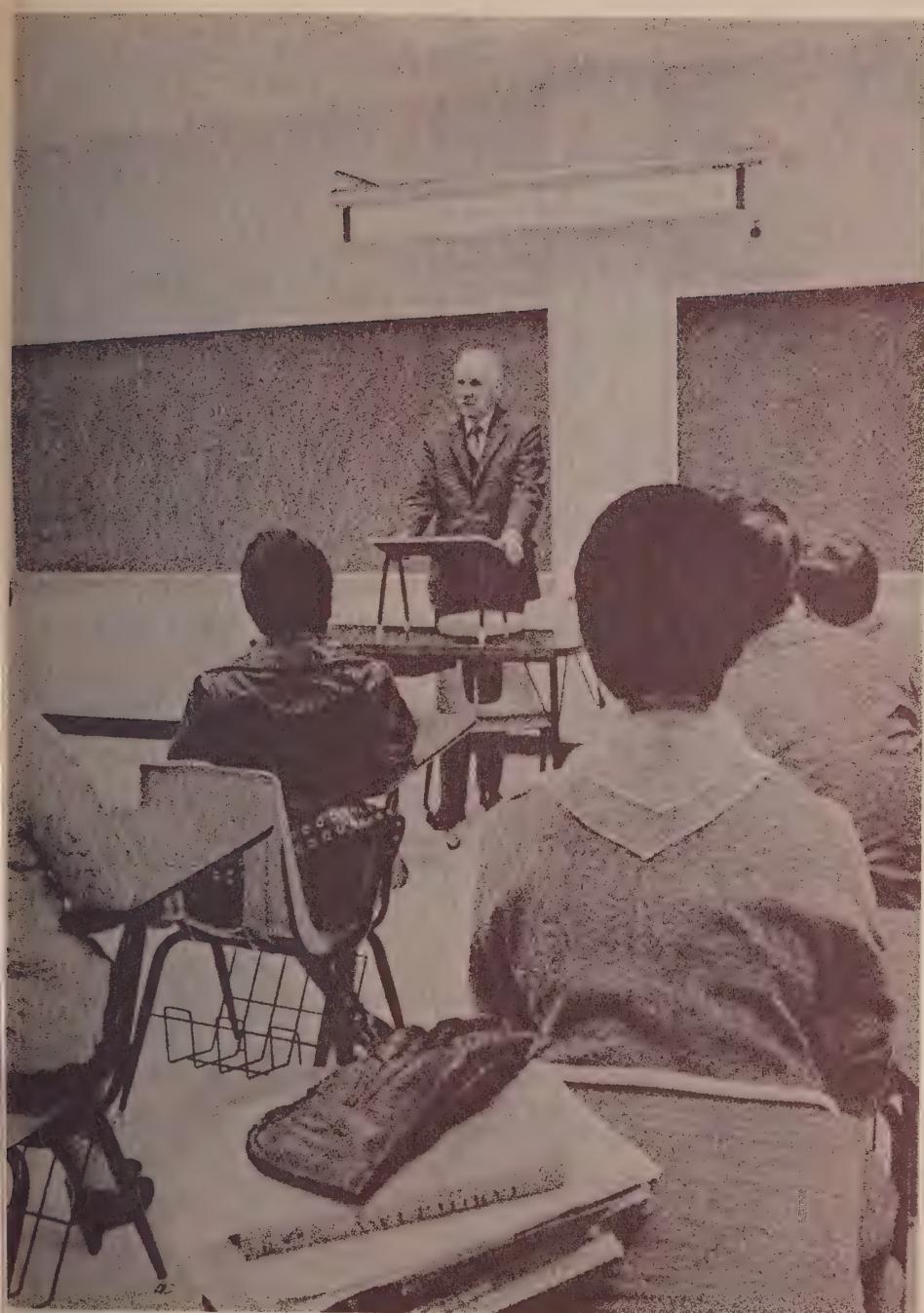
The Welding and Metal Fabrication course offered at Forsyth Technical Institute provides the student with the necessary experience in the welding and metal fabrication processes, and also broadens his technical education in such fields as blueprint reading, shop mathematics, metallurgy, and physical science. The principles of fabrication and fabrication equipment are taught in the shop each quarter along with the welding processes. Upon successful completion of the curriculum courses the student is given the standard American Welding Society (A.W.S.) Welder Qualification Test.

## CURRICULUM BY QUARTERS

Course Title		Hrs. Per Week	C	L	P	QH
<b>FIRST QUARTER</b>						
MAT 1101	Fundamentals of Mathematics		5	0	0	5
PSY 1101	Human Relations		3	0	0	3
DFT 1104	Blueprint Reading: Mechanical I		0	0	3	1
WLD 1120	Oxyacetylene Welding and Cutting		4	0	15	9
			—	—	—	—
			12	0	18	18
<b>SECOND QUARTER</b>						
ENG 1101	Communications I		3	0	0	3
PHY 1101	Applied Science I		3	2	0	4
WLD 1121	Basic Arc Welding		4	0	15	9
DFT 1105	Blueprint Interpretation		0	0	3	1
			—	—	—	—
			10	2	18	17
<b>THIRD QUARTER</b>						
ENG 1112	Communications II		3	0	0	3
MEC 1115	Treatment of Ferrous Metals		2	0	3	3
WLD 1124	Advanced Arc Welding		3	0	12	7
WLD 1123	Inert Gas Welding		1	0	6	3
			—	—	—	—
			9	0	21	16
<b>FOURTH QUARTER</b>						
BUS 1106	Free Enterprise System		3	0	0	3
MEC 1112	Machine Shop Processes		1	0	3	2
WLD 1113	Mechanical Testing and Inspection		1	0	3	2
WLD 1126	Advanced Inert Gas Welding		3	0	9	6
WLD 1127	Introduction to Pipe Welding		1	0	6	3
			—	—	—	—
			9	0	21	16

C-Class  
L-Lab  
P-Practicum  
QH-Quarter Hours Credit





## ADULT EDUCATION

## ADULT EDUCATION PROGRAM

The Adult Education Program offers a variety of courses that serve the many educational needs of our local community. These courses vary in purpose and may be designed specifically for the particular needs of the general public or of local industry. Presently the courses which make up the program fall within the following general classifications: Occupational Extension, Management Development Training, New Industry Training, Vocational Curriculum, Adult High School Diploma, Enrichment, Manpower Development Training Act Courses, and Adult Basic Education. New programs and/or courses are periodically developed when needs become apparent.

Those individuals who wish to work toward a high school diploma or toward a diploma in one of the vocational areas should plan their sequence of courses with the evening counselor.

Anyone seeking additional information or wishing to develop a new program should contact the Director of Adult Education at the Institute.

## OCCUPATIONAL EXTENSION PROGRAM

Courses in this program are occupationally oriented, providing adults with the opportunity to upgrade skills and knowledge in certain vocational and technical areas. This program is the largest administered by the Adult Education Department and includes upgrading training in such areas as drafting, health occupations, firemanship training, and welding. It also gives the regular curriculum graduates of the Institute an opportunity to participate in a continuing educational program after entering the world of work.

The following is a brief list of courses which have been offered in the past, and may be offered in the future:

Air Conditioning Design  
Advanced Algebra  
Automotive Tune-Up  
Basic Arc Welding  
Basic Computer Logic  
Blueprints and Measurements  
Central Air Conditioning Systems  
Communications in Nursing  
Electrical Apprenticeship  
Electrical Installation and Repair  
Electrical Systems (Diesel Trucks)  
Estimating for Printers

Offset Printing  
Industrial Electronics  
Plumbing Apprenticeship  
Reading Improvement  
Recruit Training for Police Officers  
Small Engine Repair  
General Machine Shop Practices  
House Plan Drawing and Planning  
Introduction to Cabinet Making  
Introduction to Fire Protection Hazards

FCC Radiotelephone Operator's License (Prep. I & II)	Introduction to Occupational Safety and Health Act of 1970	Adult Education 95
Fundamentals of Solid State Color Television Circuitry	Machine Shop Processes	
Hydraulics & Pneumatics	Machinist Apprenticeship	
Industrial Ventilation	Technical Illustrating	
Math Review, Analytic Geometry, and Calculus	Technical Mathematics	
Mechanical Drawing	Technical Report Writing	
Numerical Control Milling Machine Applications	Tolerancing and Dimensioning for Engineering Drawing	
Nursing Mathematics	Truck Suspension and Wheel Alignment	
Nutrition	Written Communications	
	Tool Making	

**COST:** Ranges from \$2.00 to \$12.50 per course, depending on the length of course.

**TIME:** Generally, classes are conducted one or two evenings per week (Monday through Thursday and Saturday mornings) for a period of eleven (11) weeks.

**NOTE:** The Adult Education Director should be contacted if additional information about this program is required.

## MANAGEMENT DEVELOPMENT TRAINING

Management Development Training is an educational program designed to upgrade the competency of supervisory and mid-management personnel in business and industry. Classes are scheduled in accordance with the needs of industry.

Supervisors or potential supervisors may qualify for an MDT Diploma by completing 16 courses. For supervisors pursuing the MDT Diploma, it is suggested that this program be planned to cover a two-year period. Most of the courses are taught during evening hours and on Saturday Morning.

Applicants for this program should presently be a supervisor or have ambitions to become a supervisor. There are no prerequisites for entry into the program.

The cost of the program is \$5.00 per course, however there are four required courses that cost \$7.50 each and each course meets one night per week for eleven (11) weeks.\*

The Management Development Training Program includes such courses as:

Art of Motivating & Handling People	Conference Leadership Training
Economics	Problem Solving & Decision Making
Human Relations	

Applied Psychology	Abusive Use of Drugs
Job Analysis & Wage Salary	Cost Reduction
Administration	OSHA Law Introduction &
Quality Control	Industrial Safety
Work Simplification	First Aid, Standard
Time & Motion Study	First Aid, Standard &
Business Letter Writing	Advanced
Public Speaking	Organizing and Implementing
Principles of Accounting I	a Safety Program
Cost Accounting I	Principles of Supervision
Business Math	Labor Law
Techniques of Clear Writing	Handling Barriers in
Management by Objectives	Communications
Principles of Management	Extemporaneous Speaking
Personnel Management-	Guidance & Counseling
Industrial Relations	Instructor Training
Modern Management	Manager's Performance
Practices	Personality Development
Planning & Controlling	Basic Typing
Staffing & Communicating	Slide Rule I
	Calculating Machines

The Evening Counselor should be contacted for further information.

\*Certain ones of these courses are also offered on Saturday morning.

## VOCATIONAL PROGRAMS

Forsyth Technical Institute offers a variety of vocational educational curriculum courses in the evening. These courses lead to a diploma upon satisfactory completion of a particular program. The programs are organized on a quarter basis, consisting of from nine to twelve quarters, each quarter lasting eleven (11) weeks. The classes may be conducted any evening Monday through Thursday from 6:00 p.m. until 10:00 p.m., or on Saturday mornings.

Applicants for this program should be 18 years old and should have completed the 10th grade. A high school transcript, a completed application form, and the results of the General Aptitude Test Battery given by the Employment Security Commission should all be given to the evening counselor prior to entering a curriculum.

The cost for vocational courses varies from \$5.00 to \$12.50 per course depending on the credit hours of instruction per course.

The following is a list of vocational programs offered:

Air Conditioning, Refrigeration and Heating	10 quarters
Automotive Mechanics	12 quarters

Building Trades Drafting	9 quarters	Adult
Mechanical Drafting	9 quarters	Education
Television Servicing	10 quarters	97
Machinist Trade	10 quarters	
Welding	10 quarters	

The evening counselor should be contacted if additional information is required.

## NEW INDUSTRY TRAINING

One of the basic objectives of Forsyth Technical Institute is to participate in the creation of more challenging and rewarding jobs for the citizens of our community by providing a customized training service to new and expanding industries. Subject to minimal limitations, this institution, in cooperation with the Industrial Services Division of the Department of Community Colleges, will design and administer a special program for training the production manpower required by any new or expanding industry creating new job opportunities. The purpose of this program is to assist new or expanding industry to meet its immediate manpower needs and to develop a long-range training program of its own to satisfy its continuing replacement and retraining needs.

This program includes the following services:

1. Consultation in determining job descriptions; defining areas of training; and prescribing appropriate course outlines, training schedules and materials.
2. Selection and training of instructors and providing instructional services for the duration of the training program.
3. Providing of suitable space for a temporary training facility prior to the completion of the new plant including the installation costs of equipment in the temporary training facility.

The Director of Adult Education should be contacted if additional information about this program is required.

## ADULT HIGH SCHOOL DIPLOMA PROGRAM

Forsyth Technical Institute, in cooperation with the Winston-Salem/Forsyth County School System, is now offering evening courses for high school credit to adult students who wish to obtain an adult high school diploma.

Classes in each course meet two nights per week from 6:15 to 9:15 for eleven (11) weeks. Students may carry two courses per quarter and need a total of 17 courses to complete the program. No student will receive credit for a course if his cumulative absences

*Adult Education* and/or tardies total more than six hours. Late enrollment does not represent absences.

98 Persons to be enrolled must be 18 years of age or older, and the class with which they entered high school must have graduated. Each enrollee must have completed the eighth grade, or a higher grade, in an accredited school, or he must have completed the eighth grade level in the Adult Basic Education Program conducted by the Department of Community Colleges. Each enrollee must be in an acceptable condition of physical and mental health.

Information regarding eligibility, courses needed for graduation, and registration for classes should be obtained from the evening counselor at Forsyth Technical Institute. The counselor is available for personal consultation in the Student Personnel Office Monday through Thursday from 1:00 p.m. until 10:00 p.m. and on Friday from 8:00 a.m. until 5 p.m.

There is no cost to the student other than that of books and supplies.

Transcripts of work done will be furnished by the evening counselor on written request of the student.

The following is a list of high school courses by quarter:

**FALL QUARTER**

*(Monday & Wednesday)*

American Government  
Business Law  
English I  
English II  
English III  
English IV

*(Tuesday & Thursday)*

Biology  
Consumer Math  
Record Keeping  
Sociology  
Typing (Personal)  
World History

**WINTER QUARTER**

*(Monday & Wednesday)*

Business Machines  
English I  
English II  
English III  
English IV  
Psychology

*(Tuesday & Thursday)*

Algebra  
Bookkeeping  
Economics

**SPRING QUARTER**

*(Monday & Wednesday)*

American Government  
Business Law  
English I  
English II  
English III  
English IV

*(Tuesday & Thursday)*

Biology  
General Math  
Record Keeping  
Sociology  
Typing (Personal)  
World History

**SUMMER QUARTER**

*(Monday & Wednesday)*

Business Machines  
English I  
English II  
English III  
English IV  
Psychology

*(Tuesday & Thursday)*

Bookkeeping  
Business Math  
Economics

General Science	General Science	Adult
Typing (Personal)	Typing (Personal)	Education
U.S. History	U.S. History	99

#### Filler Courses

Public Speaking

Health

World Geography

NOTE: Filler courses will be offered when at least 15 people notify the evening counselor of their interest three weeks before the quarter begins.

Each quarter the student should make an appointment for a pre-registration conference in the Office of Student Personnel.

The evening counselor should be contacted for additional information about this program.

## ENRICHMENT PROGRAM

The Enrichment Program offers a variety of one quarter terminal courses designed for self-interest and self-development.

Some of thes courses offered in the past are:

- Acrylic Art
- Beginners Oil Painting
- Intermediate Oil Painting I
- Intermediate Oil Painting II
- Freehand Drawing
- Furniture Finishing & Refinishing
- Cake Decorating
- Flower Arranging
- Interior Decorating
- Personal Income Tax
- Real Estate
- Stock Market
- Sewing (Advanced)
- Tailoring

Cost: Approximately \$5.00 per course.

Time: Classes are conducted one evening per week (Monday through Thursday) and on Saturday morning for a period of eleven (11) weeks.



## ADULT BASIC EDUCATION PROGRAM

The purpose of the Adult Basic Education Program is to provide education for illiterate and undereducated adults. The specific function of the program is to educate those over eighteen years of age whose inability to speak, read, or write the English language constitutes a substantial impairment of their ability to obtain or retain employment commensurate with their real ability — with a view: "to making them less likely to become dependent on others; to improving their ability to benefit from occupational training and otherwise increasing their opportunities for more productive and profitable employment, and to make them better able to meet their adult responsibilities". Specifically the A.B.E. program is designed to allow adults to attain an eighth grade educational level.

Enrollment procedures for the Adult Basic Education Program include: (1) registration, (2) testing for placement, and (3) counseling. No transcripts or formal academic credentials are required for admission.

The majority of A.B.E. classes are held in public school buildings through a cooperative agreement with the Winston-Salem/Forsyth County School System. Classes usually meet two nights per week, three hours per night. No fees are charged to the student and all books and materials are supplied free of charge.

## MANPOWER DEVELOPMENT TRAINING ACT COURSES

MDTA courses are designed to alleviate conditions of unemployment and underemployment. These courses are directed toward the disadvantaged and provide an opportunity for these persons to gain a vocation and acquire a marketable skill. All students in these courses are recruited and selected by the N. C. Employment Security Commission.

Following is a brief list of MDTA courses which have been offered in the past:

Food Service Worker  
Carpentry  
Welding  
Woodworking  
House Painting  
Child Care Worker

Upholstering  
Licensed Practical Nursing  
General Office Clerk  
Unit Ward Clerk  
Medical Records Clerk  
Patient Care Technician



**COURSES OF INSTRUCTION**

## AGRICULTURE

### AGR 140 Home Maintenance

2 4 0 4

A course dealing with the various jobs associated with maintaining a lawn and home surroundings throughout the year. Included would be shrub fertilization, tree fertilization, disease control of lawns and shrubs, pruning, proper irrigation of shrubs and lawns, and proper use of various herbicides and pesticides. It will be aimed at the person interested in making maintenance their choice of career work. Prerequisite: None.

### AGR 145 Entomology and Pathology

3 4 0 5

A study of insects that attack ornamental plant materials. The nature, structure and importance of each insect studied in detail. Additional emphasis placed upon detection, identification, and control of the insects studied. A study of the control of diseases of ornamental crops through the study of structure, life history, and identification of the various parasitic disorders which plague ornamental trees, shrubs, flowers, and turf. Prerequisite: None.

### AGR 151 Plant Materials I

3 4 0 5

Introduction to the study of woody plant materials which gives an overview of the woody plants grown in nurseries for landscape purposes and those found in woodlands and fields of North Carolina. Emphasizes deciduous shrubs and small trees. Prerequisite: None.

### AGR 152 Plant Materials II

3 4 0 5

A continuation of AGR 151 in which additional trees and shrubs are studied. Major emphasis placed upon the detailed study of broad leaved and narrow leaved evergreens. Prerequisite: AGR 151.

### AGR 153 Greenhouse Management

3 2 0 4

Fundamentals and practices in greenhouse plant production. Construction and management of plastic and glass greenhouses, including the control of heat, light, ventilation, and humidity. Crop studies include both cut flower and pot plant crops. Prerequisite: None.

### AGR 170 Plant Science

4 2 0 5

An introductory general botany course covering the fundamental principles of the reproduction, growth, functions, and development of seed bearing plants. Prerequisite: None.

### AGR 185 Soil Science and Fertilizer

5 2 0 6

A course dealing with basic principles of efficient classification, evaluation, and management of soils; care, cultivation, and fertilization of the soil, conservation of soil fertility. Prerequisite: None.

### AGR 200 Supervised Work Experience

0 0 40 4

A course to permit students to become oriented to the physical aspects of jobs available in their chosen field and to provide opportunities for the development of personal relationships of the type needed by students in any job. To enable students to acquire the skills and practical knowledge necessary for success in their chosen career fields. Prerequisite: Must be second year Horticulture students pursuing degree.

### AGR 201 Agricultural Chemicals

4 2 0 5

A study of agricultural chemicals—their importance, ingredients, formulation, and application with emphasis on the effective and safe utilization of chemicals in agricultural pest control. Major emphasis placed upon weed identification and those chemicals utilized for weed control. Part of the course devoted to

those chemicals other than herbicides—such as insecticides, fungicides, and others. Prerequisite: CHM 101.

**AGR 240 Landscape Construction**

4 2 0 5

A study dealing with the actual construction of brick patios, walks, steps, brick borders, brick walls around trees, lawn furniture, picnic tables, or other wood projects which may be used in a home landscape. It will also cover estimating the job cost of these various projects, including drawing all plans to scale. Prerequisite: None.

**AGR 251 Landscape Gardening I**

3 4 0 5

An introduction and study of the basic principles of landscape design. Considerable emphasis placed on the problems associated with residential site development. Includes a section devoted to blueprint reading. Considerable laboratory time devoted to visiting established residential sites. The course is not oriented toward a mastery of creativity and artistry, but toward an understanding of certain principles fundamental to all landscape design endeavors. Prerequisites: AGR 151 & AGR 152.

**AGR 252 Landscape Gardening II**

3 4 0 5

Development and maintenance of landscape areas including planting, pruning, fertilization, and pest control. Fundamentals of landscape economics: cost, contracts, calculating areas, volumes, and plant quantities for landscape projects. Selection and use of materials in landscape construction. Prerequisite: AGR 151, AGR 152, AGR 251.

**AGR 254 Plant Propagation**

3 2 0 4

A study of basic concepts and principles of sexual and asexual propagation. Techniques studied through practical exercises conducted in laboratory sessions. Emphasis given to those propagation methods widely utilized in the industry. Prerequisite: None.

**AGR 256 Nursery Management I**

2 4 0 4

An introductory study of nursery operations to acquaint the student with the diversity of nursery plant production, equipment, and operation detail through the study of such areas as pruning, fertilization, plant protection, and others. Additional emphasis placed on the theory and practices necessary to produce profitable nursery stock. Prerequisite: None.

**AGR 257 Nursery Management II**

2 4 0 4

A continuation of AGR 256 with increased emphasis placed upon production schedules, choice and quantities of stock to be grown, as well as developing cost finding, price establishing, and record keeping for economically important nursery crops. Planning of nursery layout and facilities. Prerequisite: AGR 256.

**AGR 258 Turf Practices**

3 4 0 5

A study of special-purpose turf grasses including identification, use, establishment, and maintenance of the specific grasses. Laboratory time used for field trips to golf courses where each student observes and participates in those operations required to maintain a healthy, vigorous playing surface. Prerequisite: AGR 185.

**AGR 259 Garden Center Management**

1 2 0 2

A course covering all phases of garden center operations including some of the major problems. Areas of study include such factors as: layout, stocking, product knowledge, traffic flow, seasonal fluctuation, risks, diversification, and merchandising. Ample time devoted to visiting established garden center operations. Prerequisite: None.

*Courses  
of  
Instruction*  
103

## AIR CONDITIONING

### *AHR 106 Architectural Mechanical Equipment*

3 0 3 4

General study of heating, air conditioning, plumbing and electrical equipment materials and symbols. Building code requirements pertaining to residential and commercial structures. Reading and interpretation of working drawings by mechanical engineers. Coordination of mechanical and electrical features with structural and architectural designs. Prerequisite: None.

### *AHR 1101 Automotive Air Conditioning*

2 0 3 3

General introduction to the principles of refrigeration; study of the assembly of the components and connections necessary in the mechanisms, the methods of operation, and control; proper handling of refrigerants in charging the system. Prerequisite: PHY 1101.

### *AHR 1102 Fundamentals of Refrigeration*

7 0 9 10

Identification, selection and use of hand, measuring and special refrigeration tools. Power drills, grinders and pipe threaders. Copper tubing, fittings and tubing fabrication. Physics related to refrigeration. The basic refrigeration cycle. Classification, characteristics and properties of refrigerants. Types purpose and principle of operation of compressors, condensers, receivers and evaporators. Assembly and operation of a basic refrigeration system. Leak checking, evacuating and charging. Compressor operational checks. System trouble analysis. Prerequisite: None.

### *AHR 1103 Domestic and Commercial Refrigeration*

6 0 12 10

Types and operating principles of domestic hermetic units. Also domestic absorption units. Operation and trouble analysis of hermetic electrical components and circuits. Repair and maintenance of hermetic units. Calculation of heat loads. Equipment selection and system balance. The purpose, operating principles, installation and maintenance of the following: floats, automatic and thermostatic expansion valves, thermostatic and pressure motor controls, heat exchangers, oil separators, driers, suction filters and minor accessories. Installation, operation, service and trouble analysis of the following equipment walk-in coolers, display cases, frozen food cabinets, reach-in cabinets, water coolers and ice makers. Also multiple compressor and evaporator system operation. Prerequisite: AHR 1102.

### *AHR 1104 Air Conditioning Controls I*

5 0 3 6

Theory of electrical and electronic controls. Principles of operations, application, connection and adjustment: pressure regulators and electrical thermostats, dual thermostats, heating-cooling thermostats and humidistats, valves dampers and pilot positioners, non-bleed controllers, two-position controls. Theory of electrical controls. Principles of operation, application, wiring and adjusting: Series 20, 60 and 90 controls. Prerequisite: AHR 1102, 1103.

### *AHR 1105 Principles of Air Conditioning*

5 0 9 8

Introduction to air conditioning. Psychrometrics. Principles of load estimating Air distribution. Applied load estimating. Residential and commercial equipment. Balancing the system. Prerequisite: AHR 1102, AHR 1103.

### *AHR 1106 Air Conditioning Controls II*

3 0 3 3

Theory of pneumatic controls. Principles of operations, pneumatic application connection and adjustment: pressure regulators and pneumatic thermostats, dual thermostats, heating-cooling thermostats and humidistats, valves, dampers and pilot positioners, non-bleed controllers, two-position controls. Theory of electrical controls. Principles of operation, application, wiring and adjusting Series 20, 40, 60 and 90 controls. Prerequisite: AHR 1104.

## AUTOMOTIVE

Courses  
of  
Instruction  
105

### *AUT 1111 Automotive Body Repair*

3 0 12 7

Basic principles of automobile construction, design, and manufacturing. A thorough study of angles, crown, and forming of steel into the complex contour of the present-day vehicles. Application of basic principles of straightening, aligning, and painting of damaged areas. Prerequisite. None.

### *AUT 1112 Automotive Body Repair*

3 0 15 8

A thorough study of the requirements for a metal worker, including the use of essential tools, forming fender flanges and beads, and straightening typical auto body damage. The student begins acquiring skills such as shaping angles, crowns, and contour of the metal of the body and fenders. Metal working and painting. Prerequisites: AUT 1111, WLD 1101, MAT 1101.

### *AUT 1113 Metal Finishing and Painting*

2 0 12 6

Development of the skill to shrink stretched metal, soldering and leading, and preparation of the metal for painting. Straightening of doors, hoods, and deck lids; fitting and aligning. Painting fenders and panels, spot repairs, and complete vehicle painting; the use of application of power tools. Prerequisites: AUT 1112, WLD 1102.

### *AUT 1114 Frame Straightening and Alignment*

2 0 6 4

General introduction and instruction in the automotive frame and front end suspension systems, the methods of operation and control, and the safety of the vehicle. Unit job application covers straightening of frames and front wheel alignment. Prerequisite: AUT 1112.

### *AUT 1115 Body Shop Applications*

3 0 21 10

Application of all phases of training. Repair order writing, parts purchasing, estimates of damage, and developing the final settlement with the adjuster. Prerequisites: AUT 1111, AUT 1112, AUT 1113, 1114.

### *AUT 1123 Automotive Chassis and Suspension Systems*

4 0 15 9

Principles and functions of the components of automotive chassis. Practical job instruction in adjusting and repairing of suspension and steering systems. Units to be studied: shock absorbers, springs, steering systems, steering linkage and front end and its alignment. Prerequisite: None.

### *AUT 1124 Automotive Power Trains*

4 0 9 7

Principles and functions of automotive power train systems: clutches, transmission gears, torque converters, drive shaft assemblies, rear axles and differentials. Identification of troubles, servicing, and repair. Prerequisite: None.

### *AUT 1125 Automotive Servicing*

3 0 12 7

Emphasis on the shop procedures necessary in determining the nature of troubles developed in the various component systems of the automobile. Trouble-shooting of automobile systems, providing a full range of experiences in testing, adjusting, repairing and replacing. Prerequisites: PME 1101, 1102, 1103; AUT 1123, 1124, 1125.

### *PME 1101 Internal Combustion Engines*

4 0 15 9

Development of a thorough knowledge and ability in using, maintaining, and storing the various hand tools and measuring devices needed in engine repair work. Study of the construction and operation of components of internal combustion engines. Testing of engine performance; servicing and maintenance of pistons, valves, cams and camshafts, fuel and exhaust systems, cooling systems; proper lubrication; and methods of testing, diagnosing and repairing. Prerequisite: None.

<i>Courses of Instruction</i>	<i>106</i>	<i>PME 1102 Automotive Electrical Systems</i>	<i>4 0 15 9</i>
		A thorough study of the electrical system of the automobile. Battery, cranking mechanism, generator, ignition, accessories and wiring; special tools, and testing equipment for the electrical system. Prerequisite: PME 1101.	
		<i>PME 1103 Automotive Fuel Systems</i>	<i>1 0 3 2</i>
		A study of the characteristics of fuels, types of fuel systems, fuel pumps, carburetors, fuel injectors, special tools and testing equipment for the fuel system. Prerequisite: None.	

## BIOLOGY

<i>BIO 107—Anatomy and Physiology I</i>	<i>3 2 0 4</i>
Students will be introduced in lecture to normal structure and function on a cellular level and will utilize this knowledge in gaining and understanding the organization and function of the human body on tissue, organ and organ system levels. When relevant, clinical applications are briefly made of such acquired knowledge, e.g. relation of information to basic pathological states. Students are given the opportunity to employ their assimilated knowledge in class discussion and laboratory work. The laboratory experience introduces additional fundamentals gained by personal participation in various types of exercises.	
Topics covered are cytology and tissue histology, integument, the musculoskeletal system, the nervous system, and the endocrine system.	
<i>BIO 108 Anatomy and Physiology II</i>	<i>3 2 0 4</i>
A continuation of BIO 107. Topics covered include reproduction, cardiovascular system, respiratory system, digestive system, urinary system and fluid and electrolyte balance. Prerequisite BIO 107.	
<i>BIO 111 Microbiology</i>	<i>3 2 0 4</i>
This is a one quarter course designed to provide an understanding of microbiological principles and applications. Stress is placed on microbial classifications, relations to man, morphology, structure and function, host-parasite relationships, infection, immunity, and hypersensitivity. Laboratory sessions are concerned with principles of identification, slide techniques, culture methods, and sterile procedures.	
<i>BIO 115 Medical Terminology I</i>	<i>1 0 0 1</i>
The first of a series of two courses in which the student is introduced to terms related to all areas of medical science, hospital service and paramedical specialties. Terms introduced parallel the topics covered in Anatomy and Physiology I.	
<i>BIO 116 Medical Terminology II</i>	<i>1 0 0 1</i>
The second of a series of two courses in which the student is introduced to terms related to all areas of medical science, hospital service, and paramedical specialties. Terms introduced parallel the topics covered in Anatomy and Physiology II. Prerequisite: BIO 115.	

## BUSINESS

<i>BUS 002 Introduction to Business Occupations</i>	<i>2 0 0 0</i>
A course designed to familiarize the student with business curricula at Forsyth	

		<i>Courses of Instruction</i>
Technical Institute. The employment possibilities and further educational opportunities of graduates from two-year business curricula are explored.		107
<b>BUS 010 Pre-Technical Accounting</b>	5 0 0 0	
A course designed for those students entering Business Administration, Executive Secretarial Science, and Electronic Data Processing-Business who have not had bookkeeping in high school. A concentrated study of the bookkeeping cycle including journalizing, posting, summarizing and preparing of financial statements, and closing of books.		
<b>BUS 020 Clerical Practice</b>	3 1 0 0	
A course designed to acquaint the student with the responsibilities encountered by the office worker during the work day. These include the following: receptionist duties, handling the mail, telephone techniques, telegrams, office records, purchasing of supplies, and applying for a job.		
<b>BUS 030 Introduction to Shorthand</b>	5 0 0 0	
This course provides for the introduction of basic shorthand theory, dictation of practiced materials and transcription skills, and develops a fluent reading rate. This is an introduction to Shorthand I.		
<b>BUS 101 Introduction to Business</b>	5 0 0 5	
A survey of the business world with particular attention devoted to the structure of the various types of business organization, methods of financing, internal organization, and management. Prerequisite: None.		
<b>BUS 102 Typewriting I</b>	2 0 3 3	
Introduction to the touch typewriting system with emphasis on correct techniques, mastery of the keyboard, simple business correspondence, tabulation, and manuscripts. Prerequisite: None.		
<b>BUS 103 Typewriting II</b>	2 0 3 3	
Emphasizes the development of speed and accuracy with further mastery of correct typewriting techniques. Includes application of these skills and techniques in tabulation, manuscripts, correspondence, and business forms. Prerequisite: BUS 102 or the equivalent.		
<b>BUS 104 Typewriting III</b>	2 0 3 3	
Emphasis on production typing problems and speed building. Attention to the development of the student's ability to function as an expert typist, producing mailable copies. The production units are tabulation, manuscript, correspondence, and business forms. Prerequisite: BUS 103 or the equivalent.		
<b>BUS 105 Typewriting IV</b>	2 0 3 3	
A continuation of BUS 104. Prerequisite: BUS 104 or equivalent.		
<b>BUS 106 Shorthand I</b>	3 0 3 4	
A beginning course in the theory and practice of reading and writing shorthand. Emphasis on phonetics, penmanship, word families, brief forms, and phrases. Prerequisite: None.		
<b>BUS 107 Shorthand II</b>	3 0 3 4	
Continued study of theory with greater emphasis on dictation and elementary transcription. Prerequisite: BUS 106 or the equivalent.		
<b>BUS 108 Shorthand III</b>	3 0 3 4	
Theory and speed building. Introduction to office style dictation. Emphasis on development of speed in dictation and accuracy in transcription. Prerequisite: BUS 107.		

<i>Courses</i>	<i>BUS 110 Office Machines I</i>	2	0	3	3
<i>of</i>	A general survey of the business and office machines. Emphasizes techniques, processes operation and application of the ten-key adding machines, full key-board adding machines, and calculator. Prerequisite: BUS 102.				
<i>Instruction</i>					
108					
	<i>BUS 111 Techniques of Shorthand Transcription</i>	3	0	0	3
	Emphasis placed on the use of the dictionary and secretarial reference manual in producing mailable transcripts. The following items are included: expression of dates and numerical amounts; letter style, format, and placement; capitalization and punctuation; word spelling and division.				
	<i>BUS 112 Techniques of Machine Transcription</i>	3	0	0	3
	Emphasis placed on the use of the dictionary and secretarial reference manual in producing mailable transcripts. The following items are included: expression of dates and numerical amounts; letter style, format, and placement; capitalization and punctuation; word spelling and division.				
	<i>BUS 113 Vocabulary/Terminology</i>	3	0	0	3
	Develops an understanding of the terminology and vocabulary appropriate to the course of study and as it is used in business, technical, and professional offices.				
	<i>BUS 115 Business Law I</i>	3	0	0	3
	A general course designed to acquaint the student with certain fundamentals and principles of business law. Includes contracts, negotiable instruments, and agencies. Prerequisite: None.				
	<i>BUS 116 Business Law II</i>	3	0	0	3
	Includes the study of laws pertaining to bailment, sales, risk-bearing, partnership-corporation, mortgages, and property rights. Prerequisite: BUS 115.				
	<i>BUS 120 Accounting I</i>	4	0	3	5
	The study of the principles, techniques, and tools of the accounting process. Includes the collecting, summarizing, analyzing and reporting of financial information. Emphasizes application of the principles learned. Prerequisite: MAT 110.				
	<i>BUS 121 Accounting II</i>	4	0	3	5
	Major attention given to the procedures involved in the recording of receivables, payables, inventories, deferrals, accruals, plant assets, and payrolls. Emphasizes application of the processes learned. Prerequisite: BUS 120.				
	<i>BUS 123 Business Finance I</i>	3	0	0	3
	A study of the principles and problems of financing business firms from the standpoint of maintaining solvency. Emphasizes short-term financing in relation to uses, sources, and management of credit. Introduction of long-term debt and equity financing. Prerequisite: BUS 120.				
	<i>BUS 124 Business Finance II</i>	3	0	0	3
	A study of long-term financing. Emphasis on equity financing within the corporation. Topics include the securities markets and investment companies, growth through acquisition, and liquidation procedures. Prerequisite: BUS 123.				
	<i>BUS 205 Typewriting V</i>	2	0	3	3
	Emphasis placed on the development of individual production rates. Emphasizes the techniques needed in planning and in typing projects that closely approximate the work appropriate to the field of study. Projects include review of letter forms, methods of duplication, statistical tabulation, and the typing of reports, manuscripts and legal documents. Prerequisite: BUS 105.				

<b>BUS 206E</b>	<i>Dictation and Transcription</i>	3	0	3	4	<i>Courses</i>
	Develops the skill of taking dictation and of transcribing at the typewriter materials appropriate to the course of study. Includes a review of the theory and the dictation of familiar and unfamiliar material at varying rates of speed. Minimum dictation rate of 100 words per minute required for five minutes on new material. Prerequisite: BUS 108.					<i>of</i>
<b>BUS 207E</b>	<i>Dictation and Transcription</i>	3	0	3	4	<i>Instruction</i>
	Emphasizes accuracy, speed, and vocabulary that will enable student to meet the stenographic requirements of business and professional offices. Minimum dictation rate of 110 words per minute required for five minutes on new material. Prerequisite: BUS 206E.					109
<b>BUS 208E</b>	<i>Dictation and Transcription</i>	3	0	3	4	
	Principally a speed building course, covering materials appropriate to the course of study, with emphasis on speed as well as accuracy. Minimum dictation rate of 120 words per minute required for five minutes on new material. Prerequisite: BUS 207E.					
<b>BUS 211</b>	<i>Office Machines II</i>	2	0	3	3	
	Instructions in the operation of the bookkeeping-accounting machines, duplicating equipment, and the dictating and transcribing machines. Prerequisite: BUS 110.					
<b>BUS 212A</b>	<i>Machine Transcription</i>	2	2	0	3	
	Develops the skill of direct transcription from oral dictation to mailable typewritten form, which involves correct punctuation, spelling, and typing styles.					
<b>BUS 212B</b>	<i>Machine Transcription</i>	2	2	0	3	
	Builds speed in the skill of direct transcription from oral dictation to a mailable typewritten form, which involves correct punctuation, spelling, and typing styles. Prerequisite: 212A.					
<b>BUS 213</b>	<i>Filing</i>	3	0	0	3	
	Fundamentals of indexing and filing, combining theory and practice by the use of miniature letters, filing boxes and guides. Alphabetic, Triple Check, Automatic, Geographic, Subject, Soundex, and Dewey Decimal filing. Prerequisite: None.					
<b>BUS 214</b>	<i>Secretarial Procedures</i>	3	0	3	4	
	Designed to acquaint the student with the responsibilities encountered by a secretary during the work day. Includes receptionist duties, handling the mail, telephone techniques, travel information, telegrams, office records, purchasing of supplies, office organization, and insurance claims. Prerequisite: Open to second year students only.					
<b>BUS 219</b>	<i>Office Application</i>	2	0	12	6	
	During the last quarter only, students are assigned to work in a business or professional office for 20 hours per week. The objective is to provide actual work experience for secretarial students and an opportunity for the practical application of the skills and knowledge previously learned.					
<b>BUS 229</b>	<i>Taxes</i>	2	0	3	3	
	A study and application of federal and state taxes as applied to individuals, partnerships, and corporations. Emphasizes the preparation of individual income tax returns. Prerequisite: BUS 121.					
<b>BUS 232</b>	<i>Sales Development</i>	3	0	0	3	
	A study of retail, wholesale and specialty selling. Emphasizes the mastering					

<i>Courses</i>	and the application of the fundamentals of selling. Preparation for and execution of sales demonstrations required. Prerequisite: None.
<i>Instruction</i>	
110	
<i>BUS 235 Business Management</i>	3 0 0 3
	The study of major functions of management such as planning, staffing, controlling, and financing. Particular emphasis placed on factors and problems involved in starting a new business. Students encouraged to think and act the roles of entrepreneur and manager. Prerequisite: None.
<i>BUS 239 Marketing</i>	5 0 0 5
	A study of the principles and problems of marketing goods and services in a free enterprise economy. Emphasizes product selection and development, promotion, channels of distribution and pricing. Prerequisite: ECO 102.
<i>BUS 243 Advertising</i>	4 0 0 4
	The study of the methods and techniques used by ad men and agencies to persuade the public to buy. Topics covered are market research, selection of media, and evaluation and testing of ad effectiveness. Theory and practice in writing and designing ad copy included in class activity. Prerequisite: None.
<i>BUS 271 Office Management</i>	3 0 0 3
	A study of the planning, organizing, and controlling of office facilities, equipment and personnel. Emphasis placed on the role of the office manager. Prerequisite: None.
<i>BUS 272 Principles of Supervision</i>	3 0 0 3
	A study of the basic responsibilities of the supervisor and his relationship to supervisors, subordinates and associates. Emphasizes methods of supervision and problem solving through case studies.
<i>BUS 1103 Small Business Operations</i>	3 0 0 3
	An introduction to the business world, problems of small business operation, basic business law, business forms and records, financial problems, ordering and inventorying, layout of equipment and offices, methods of improving business, and employer-employee relations. Prerequisite: None.
<i>BUS 1105 Industrial Organizations</i>	3 0 0 3
	Methods, techniques, and practices of modern management in planning, organizing and controlling operations of a manufacturing concern. Introduction to the competitive system and the factors constituting product cost. Prerequisite: None.
<i>BUS 1106 Free Enterprise System</i>	3 0 0 3
	The fundamental principles of economics including the institutions and practices by which people gain a livelihood in a capitalistic economy. A study of the laws of supply and demand and the principles bearing upon production, money exchange, distribution, and consumption in relation to individual enterprise and to society at large. Designed to give the student an understanding of the economic world in which he lives and its relationship to his social world. Prerequisite: None.
<i>BUS 1122 Typing I</i>	2 0 3 3
	Introduction to the touch typewriter system with emphasis on correct techniques, mastery of the keyboard, simple business correspondence, tabulation, and manuscripts. Prerequisite: None.

## BUSINESS ELECTIVES

Courses  
of  
Instruction  
111

### *BUS 252 Risk and Insurance*

3 0 0 3

A study of risk and insurance coverages. Emphasis on insurance buying and selling behavior, found in industrial, ordinary, liability, and health and accidental insurance policies. Prerequisite: None.

### *BUS 253 Money and Banking*

3 0 0 3

The essentials for an understanding of our monetary system including creation of money, bank management, business fluctuations, monetary and fiscal policy and control techniques, balance of payments and foreign exchange. Prerequisite: None.

### *BUS 254 Accounting III*

6 0 0 6

The study of accounting principles for partnerships and corporations. Major attention is given to accounting processes for financing the partnerships and corporation and the preparation of financial statements. Emphasis applications of the processes learned. Prerequisite: BUS 121.

### *BUS 255 Real Estate*

3 0 0 3

A study of the basic principles of buying and selling real estate. Emphasizing both industrial and consumer real estate. Prerequisite: None.

### *BUS 256 Retailing*

6 0 0 6

A study of the basic retailing principles. Major attention is given to display, sales, methods of inventory control with practical application of principles learned. Prerequisite: None.

### *BUS 257 Cost Accounting*

6 0 0 6

The study of principles, techniques, and tools of the cost accounting processes within the job cost and process cost system. Emphasis on application of principles learned. Prerequisite: BUS 254.

## CARPENTRY

### *CAR 1101 Framing, Sheathing and Insulation I*

2 0 18 8

Instruction in the principles and practices of frame construction beginning with the foundation sills and including: floor joist, subfloor, wall studs, ceiling joist, rafters, bridging, bracing, sheathing, and interior wall partition. Layout and construction methods of common types of roofs using standard rafter construction, truss construction, and post and beam construction. Application and selection of sheathing and roofing. Consideration given to the coordination of carpentry work with installation of the mechanical equipment such as: electrical, air conditioning, heating, and plumbing.

### *CAR 1102 Framing, Sheathing and Insulation II*

3 0 18 9

A continuation of CAR 1101. Prerequisite: CAR 1101.

### *CAR 1103 Interior and Exterior Trim*

3 0 21 10

Cornice work, siding installation of windows and doors emphasized.

### *CAR 1105 Finish Work*

6 0 21 13

Exterior and interior trim and finish carpentry to complete the general carpentry program. Materials and methods used in finishing carpentry such as: exterior cornice, door and window trim; interior flooring, door and window facing, moldings, and cornice construction; installation of hardware, construc-

<i>Courses of Instruction</i>	<i>112</i>	tion and installation of built-in equipment and cabinets. Millwork as performed by the general carpenter for building construction.	
		<i>CAR 1114 Building Codes</i>	<i>3 0 0 3</i>

Study of applicable sections of city, state, and national codes. Material correlated with all other carpentry courses.

## CHEMISTRY

<i>CHM 010 Chemistry — Pre-Technical</i>	<i>3 2 0 0</i>
This is an elementary course in chemistry equivalent to high school. It provides the necessary foundation in chemistry for students who enter: (1) a physical science technical curriculum which requires chemistry at the beginning, or (2) a technical program based on the biological sciences.	
Topics and laboratory experiments are planned to teach chemistry which is related to the various chemical aspects of biological science. Laboratory exercises and experiments are designed to teach the fundamentals of chemistry and develop chemical laboratory skills.	
<i>CHM 101 Chemistry</i>	<i>4 2 0 5</i>

Study of the physical and chemical properties of substances, chemical changes, elements, compounds gases, chemical combinations, weights and measurements, theory of metals, acids, bases, salts, solvents, solutions, and emulsions. In addition, study of carbohydrates, electrochemistry, electrolytes, and electrolysis. Industrial and agricultural applications are emphasized.

<i>CHM 103 Chemistry</i>	<i>3 2 0 4</i>
Students will be introduced in lecture to important chemical principles fundamental to the understanding of life processes. This will include a foundation in general and organic chemistry followed by the essential features of organic chemistry which lays the groundwork for the study of the biochemistry of living systems.	
Students are afforded the opportunity to expand their knowledge through classroom discussion and through laboratory work. The laboratory experiments are designed in some cases to introduce specific principles and in other cases to supplement and reinforce material introduced in lecture.	

## CIVIL ENGINEERING

<i>CIV 101 Surveying</i>	<i>2 0 6 4</i>
Theory and practice of plane surveying including taping, differential and profile leveling, cross sections, earthwork computations, transit, stadia, and transit-tape surveys. Prerequisites: MAT 102, DFT 107.	
<i>CIV 105 Architectural Materials and Methods</i>	<i>3 2 0 4</i>
Emphasizes materials used in the construction of architectural structures. Field trips to construction sites and study of manufacturer's specifications for materials. Properties and standard sizes of structural materials, and construction techniques included. Prerequisite: None.	

*CIV 1101 Surveying*

Basic instrumentation and topography, together with field trips and drafting room application of site surveying. Prerequisite: MAT 1104.

## DIESEL

Courses  
of  
Instruction  
113

### DSL 1101 Diesel Engines

4 0 15 9

Development of a general understanding of the basic principles involved in the construction and operation of diesel engines; also, thermodynamic concept of cycles related to the diesel engines. An elementary study of performance characteristics of diesel engines and basic design in fuel systems. Work includes such overhaul jobs as grinding valves, gaging cylinder wear, removing and replacing cylinder liners, boring cylinders, replacing and adjusting bearings, gaging and installing piston rings. Prerequisite: None.

### DSL 1102 Diesel Electrical and Fuel Systems

4 0 15 9

A course designed to familiarize the student with the constructional and operational features of the electrical units which are used on preheating, starting and generating systems of diesel engines. Student activities in reconditioning techniques of generators, starters, and alternators. Use of test equipment for measurement, adjustment and trouble shooting included. Prerequisite: None.

### DSL 1103 Diesel Fuel Injection

2 0 6 4

Theory related to a study of the variations in design and the principles of operation of fuel injection systems used on the automotive diesel engine. Practice work designed to familiarize the student with the operation, maintenance and testing of the units which comprise the fuel injection systems of diesel engines. Teaches student to maintain, repair, and test such units as fuel pumps, transfer pumps, spray nozzles and unit injectors. Prerequisite: None.

### DSL 1104 Power Trains, Chassis & Suspension Systems

4 0 15 9

Instruction given in the construction features and operating principles of truck chassis, suspension, steering and brake systems. Teaches student to operate equipment to correct and adjust abnormalities in suspension and steering. Familiarization with the variations in design and functioning of brake systems as used by heavy trucks. Study of the construction and operation of such component parts as clutches, transmissions, propeller shafts and rear axles. Prerequisite: None.

### DSL 1105 Diesel Servicing

5 0 15 10

A course intended for those who desire to become proficient in the field of diesel diagnosis and repair. Vehicles first given a complete checkout to determine the trouble, and the trouble corrected on the basis of the diagnostic report. Training provided on all major mechanical and electrical units. Preventive maintenance and servicing techniques taught as recommended by manufacturers. Prerequisites: DSL 1101, 1102, 1103, 1104.

## DRAFTING

### DFT 101 Technical Drafting I

2 0 6 4

Introduction of the field of drafting as the student begins study of drawing principles and practices for print reading and describing objects in the graphic language. Includes use of drafting equipment, lettering, freehand orthographic and pictorial sketching, geometric construction, orthographic instrument drawing (principal views). Dimensioning practices for "details" and "working drawings" as approved by the American Standards Association. Prerequisite: None.

<i>Courses of Instruction</i>	<i>DFT 102 Technical Drafting II</i>	<i>2 0 6 4</i>
114	Includes the application of orthographic projection principles to the more complex drafting problems, primary and secondary auxiliary views, simple and successive revolutions, sections and conventions. Introduces the graphical analysis of space problems. Includes study of problems of practical design elements involving points, lines, planes, and combinations of these elements. Includes intersections and developments with their practical solutions. Includes model solutions with problems where applicable. Prerequisite: DFT 101.	
	<i>DFT 103 Technical Drafting III</i>	<i>2 0 6 4</i>
	A study of the various techniques employed to produce and render isometric and oblique drawings and isometric, dimetric, and trimetric projections. Also includes applications and construction of charts, graphs, and nomographs in engineering and technical data, piping, welding symbols, and methods of representing and specifying. Prerequisite: DFT 102.	
	<i>DFT 106 Architectural Drafting I</i>	<i>2 0 6 4</i>
	A course designed to provide fundamental knowledge of the principles of drafting. Basic skills and techniques of drafting include use of drafting equipment, lettering, freehand orthographic and pictorial sketching, geometric construction, orthographic instrument drawing of principal views. Projection problems dealing with principles of descriptive geometry involving points, lines, planes, and connectors. The principles of isometric, oblique, and perspective drawings introduced. Prerequisite: None.	
	<i>DFT 107 Architectural Drafting II</i>	<i>2 0 6 4</i>
	Development of techniques in architectural lettering, symbols, and their interpretation; dimensioning, freehand and instrument drafting. Drawings of construction details, using appropriate material symbols and connections. Sections, scale details and full-size details prepared from preliminary sketches. Applications of descriptive geometry used in visualization and analytical solutions of the drafting problems involving auxiliary views, intersections and developments. Prerequisite: DFT 106.	
	<i>DFT 108 Architectural Drafting III</i>	<i>0 0 9 3</i>
	An approach in depth to the study of architectural drafting. Development of techniques in architectural lettering, dimensioning, freehand sketching and instrument drawing. Drawings of construction details, using appropriate material symbols and conventions. Working drawings, including plans, elevations, sections, scale details and full-size details to be prepared from preliminary sketches. Prerequisites: DFT 107, CIV 105.	
	<i>DFT 181 History of Architecture and Construction</i>	<i>5 0 0 5</i>
	Covers the evolution of building development from primitive to modern. Concerned with the chronological history of architectural construction and design. The principal periods studied: Pre-history, Ancient Egypt and Mesopotamia, Greece, Rome, Romanesque, Gothic, Renaissance, Early American, and Modern. Prerequisite: None.	
	<i>DFT 192 Orientation to Design Drafting</i>	<i>1 0 0 1</i>
	Designed to acquaint the students with the field and with future employment opportunities. Identifies the role of the draftsman. Prerequisite: None.	
	<i>DFT 204 Descriptive Geometry</i>	<i>3 0 3 4</i>
	Graphic analysis of space problems involving points, lines, planes, connectors, and a combination of these. Practical design problems stressed with analytical verification where applicable. Visualization stressed on every problem. Prerequisites: DFT 103, MAT 103.	

**DFT 205 Design Drafting I**

**3 2 0 4**

Introduces basic design in the study of motion, transfer mechanisms as they relate to power trains. Includes principles of design sketching, design drawing, layout drafting, detailing from layouts, production drawings and simplified drafting practices. Types and methods of specifying materials and workmanship integral part of the course. Prerequisites: DFT 204, MAT 103, PHY 102.

**DFT 206 Design Drafting II**

**2 6 0 4**

Research to solve a problem in design by consulting various manuals, periodicals, and through laboratory experiments. A written technical report, preliminary design sketches, layout drawings, detail drawings, assembly, and sub-assembly drawings, pictorial drawings, exploded pictorial assembly, patent drawings, and specifications required as a part of the problem. Prerequisite: DFT 205.

**DFT 211 Mechanisms**

**3 0 3 4**

Mathematical and drafting room solutions of problems involving the principles of machine elements. Study of motions of linkages, velocities and acceleration of points within a link mechanism; layout methods for designing cams, belts, pulley, gears and gear trains. Prerequisites: DFT 201 & 204, MAT 103, MEC 104.

**DFT 212 Jig and Fixture Design**

**3 0 6 5**

Commercial standards, principles, practices and tools of jig and fixture design. Individual project and design work to acquaint students with the types of jigs and fixtures and their design. Prerequisites: DFT 205, DFT 211.

**DFT 220 Architectural Drafting IV**

**2 0 9 5**

Drawing of structural plans and details as prepared for building construction, including steel, concrete, and timber structural components. Appropriate details and drawings necessary for construction and fabrication of structural members. Reference materials used to provide the draftsman with skills and knowledge in locating data and in using handbooks. Prerequisite: DFT 108.

**DFT 223 Design Drafting III**

**3 0 6 5**

Basic fundamentals of punch and die design. Commercial standards and principles of blanking, piercing, bending and forming dies; including compound and progressive. Electro-mechanical drawings of printed circuits, wiring diagrams, and schematics. Prerequisite: DFT 205.

**DFT 221 Architectural Drafting V**

**2 0 9 5**

Drawing of plans and details as prepared for mechanical equipment such as air conditioning, plumbing and electrical systems by using appropriate symbols and conventions. Consideration given to coordination of mechanical and electrical features with structural and architectural components. Prerequisite: DFT 220.

**DFT 224 Product Design**

**2 0 6 4**

The bringing together of original idea, scientific theory involved, applicable product history, limiting manufacturing boundaries, aesthetic importance, and marketability considered with study given to relative importance and intended design goal. Prerequisites: DFT 211, DFT 223, MEC 201.

**DFT 222 Architectural Drafting VI**

**2 0 9 5**

Preparation of the complete set of working drawings for the architectural structure. Preparation of millwork drawings, cabinets and built-in equipment detail drawings, and door, window, and room schedules. Site and landscaping plans studied and drawn. A final assembly of the complete document for construction purposes. Prerequisites: DFT 221, CIV 101, DFT 235.

<i>Courses</i>	<i>DFT 233 Office Practice Seminar</i>	2	0	0	2
<i>of</i>	A study of the professional relationship of the architectural firm in relation to clients, contractors, suppliers, consultants and other architects. Ethics of the profession as applicable to the draftsman's role in the architectural firm stressed.				
<i>Instruction</i>					
116	Prerequisite: None.				
	<i>DFT 235 Codes, Specifications and Contract Documents</i>	3	0	3	4
	A study of building codes and their effect in relation to specifications and drawings. The purpose and writing of specifications studied along with their legal and practical application to working drawings. Contract documents analyzed and studied for the purpose of client-architect-contractor responsibilities, duties and mutual protection. Prerequisite: DFT 220.				
	<i>DFT 236 Construction Estimating and Field Inspecting</i>	3	0	3	4
	Interpretation of working drawings for a project; preparation of material and labor quantity surveys from plans and specifications; approximate and detailed estimates of cost. Includes study of materials take-off, labor take-off, subcontractors' estimates, overhead costs, and bid and contract procedures. Detailed inspection of the construction by comparing finished work to the specifications. Prerequisite: DFT 235.				
	<i>DFT 260 Dimensioning and Tolerancing</i>	1	0	3	2
	Standard Drafting Practices per USASI Y 14.5. Includes general dimensioning; general applications of tolerances and limits; tolerance of position and form; advantages of true position tolerancing. Prerequisite: DFT 103.				
	<i>DFT 1101 Schematics and Diagrams</i>	0	0	3	1
	Interpretation and reading of blueprints. Development of ability to read and interpret blueprints, charts, instruction and service manuals, and wiring diagrams. Information on the basic principles of lines, views, dimensioning procedures, and notes. Prerequisite: None.				
	<i>DFT 1104 Blueprint Reading: Mechanical I</i>	0	0	3	1
	Interpretation and reading of blueprints. Information on the basic principles of the blueprint; lines, views, dimensioning procedures and notes. Prerequisite: None.				
	<i>DFT 1105 Blueprint Reading: Mechanical II</i>	0	0	3	1
	Further practice in interpretation of blueprints as they are used in industry; study of prints supplied by industry; making plans of operations; introduction to drafting room procedures; sketching as a means of passing on ideas, information and processes. Prerequisite: DFT 1104.				
	<i>DFT 1106 Blueprint Reading: Mechanical III</i>	0	0	3	1
	Advanced blueprint reading and sketching as related to detail and assembly drawings used in machine shops. The interpretation of drawings of complex parts and mechanisms for features of fabrication, construction and assembly. Prerequisite: DFT 1105.				
	<i>DFT 1110 Blueprint Reading</i>	0	0	3	1
	Principles of interpreting blueprints and trade specifications common to the building trades. Development of proficiency in making three view and pictorial sketches. Prerequisite: None.				
	<i>DFT 1111 Blueprint Reading</i>	0	0	3	1
	Principles of interpreting blueprints and specifications common to the building trades. Practice in reading details for grades, foundations, floor plans, elevations, walls, doors and windows, and roofs of buildings. Development of proficiency in making three view and pictorial sketches. Estimating from blueprints. Prerequisite: DFT 1110.				

**DFT 1112 Drafting I: Plumbing**

1 0 3 2

Review of blueprint reading, instruction in the selection, use and care of basic drafting instruments. Single stroke freehand lettering. Orthographic projection consisting of instruments and freehand sketching. Study of dimensioning and note practices with reference to the American Standard Association practices. Includes methods of reproducing drawings; detail, assembly, layout and pictorial drawings; specifications, parts list and bill of materials. Drawings of piping includes: metal pipe, tubing, plastic pipe, pipe joints, tube joints, pipe fittings, valves, specification of fittings, pipe threads, specification of threads, scale layout (two line drawing) and diagrammatic (single line) drawings. (Diagrammatic methods include orthographic, developed and pictorial.) Standard symbols, dimensioning of a pipe drawing, and pipe hangers and supports. Students work to include various problems of piping layout to scale. (Note—school will furnish drafting equipment.)

**DFT 1113 Blueprint Reading: Electrical**

0 0 3 1

Interpretation of schematics, diagrams and blueprints applicable to electrical installations with emphasis on electrical plans for domestic and commercial buildings. Sketching schematics, diagrams, and electrical plans for electrical installations using appropriate symbols and notes according to the applicable codes. Prerequisite: DFT 1110.

**DFT 1121 Drafting I**

4 0 12 8

An introduction to drafting and the study of drafting practices. Instruction in the selection, use and care of instruments, singlestroke lettering, applied geometry, freehand sketching consisting of orthographic and pictorial drawings. Emphasis on orthographic projection, reading and instrument drawing of principal views, single auxiliary views (primary), and double (oblique) auxiliary views. Study of dimensioning and note practices with reference to the American Standards Association practices. Methods of reproducing drawings included at the appropriate time. Prerequisite: None.

**DFT 1122 Drafting II**

4 0 12 8

Study of simple and successive revolutions and their applications to practical problems. Study of sections and conventions and drawing of both detail and assembly sections. Study of intersections and developments by relating the drawing to the sheet metal trades. Models of the assigned drawings to be made from construction paper, cardboard, or similar materials as a proof of the solution to the problems drawn.

Study of methods of drawing and projecting axonometric, oblique, and perspective drawings with emphasis on the practical applications of pictorial drawings. Introduction of various methods of shading and performance of dimensioning and sectioning of oblique and axonometric pictorials. Prerequisite: DFT 1121.

**DFT 1125 Descriptive Geometry**

2 0 3 3

Graphical analysis of space problems. Problems to deal with practical design elements involving points, lines, planes, connectors, and a combination of these. Includes problems dealing with solid geometry theorems. Analytical as well as graphical solution wherever applicable. Prerequisite: DFT 1121.

**DFT 1131 Mechanical Drafting**

2 0 12 6

An introduction to mechanical drafting beginning with problems concerning precision and limit dimensioning. Methods of fastening materials, and fasteners: keys, rivets, springs, and welding. Study and use of symbols in drawings. Principles of design introduced with the study of basic mechanisms of motion transfer: gears, cams, power trains, pulleys, belting and methods of specifying and calculating dimensions. Drawings involving these mechanisms. Prerequisite: DFT 1122.

<i>Courses</i>	<i>DFT 1132 Mechanical Drafting</i>	<i>2 0 12 6</i>
<i>Instruction</i>	Principles of design sketching, design drawings, layout drafting, detailing from layout drawings, production drawings and simplified drafting practices. Forging and casting drawings from layouts. Emphasizes specifications, parts list and bill of materials. Development of a complete set of working drawings of a tool, jig, fixture or simple machine. Teaches principles of design, handbook and manual usage. Prerequisite: DFT 1131.	
118		
	<i>DFT 1141 Drafting III</i>	<i>4 0 15 9</i>
	An introduction to architectural drafting. Further development of techniques in lettering, dimensioning, freehand sketching and instrument drawings. Drawings of construction details, using appropriate material symbols and conventions. Working drawings, including plans, elevations, sections, scale details and full-size details prepared from preliminary sketches. Prerequisite: DFT 1122.	
	<i>DFT 1142 Drafting IV</i>	<i>4 0 15 9</i>
	Individual and group participation in the preparation of complete working drawings for a complex architectural structure. Study of drafting room organization and relationships of personnel within the architectural office. Prerequisites: DFT 1141, DFT 1143, DFT 1144.	
	<i>DFT 1143 Building Mechanical Equipment</i>	<i>3 0 0 3</i>
	General study of heating, air conditioning, plumbing and electrical equipment, materials and symbols. Building code requirements pertaining to residential and commercial structures. Reading and interpretation of working drawings by mechanical engineers. Prerequisite: DFT 1122.	
	<i>DFT 1144 Building Materials and Methods</i>	<i>3 0 0 3</i>
	Study of materials used in the construction of architectural structures. Their economic values and limitations affected by locality, budget and codes. Field trips to construction sites and study of manufacturer's specifications for materials. Standard sizes of structural materials and modular construction techniques. Prerequisite: None.	

## ECONOMICS

<i>ECO 102 Economics I</i>	<i>3 0 0 3</i>
A study of macroeconomics, which treats the economy as a whole. Included is a study of Gross National Product, full employment, business fluctuations, economic growth, and the expansion of bank credit. Prerequisite: None.	
<i>ECO 104 Economics II</i>	<i>3 0 0 3</i>

A further study into the function of the United States' economy as well as a look into world economics. A study of prices, competition, nonprice competition and income distribution in the United States. Includes a study of international trade and payments, economic development, and comparative economic systems. Prerequisite: ECO 102.

## EDUCATION

<i>EDU 101 Child Growth and Development</i>	<i>3 0 0 3</i>
Study of early growth and development, with emphasis on the principles and techniques for promoting the physical and mental health of the young child. Prerequisite: None.	

<i>EDU 102 Programming for Young Children</i>	3	0	6	5	<i>Courses of Instruction</i>
Study of principles and practices of early childhood education: the types of experiences, facilities, and media which will promote optimal development of each child. Guidelines for identifying, planning, organizing, and implementing appropriate programs for various levels of development are derived through group discussion and individual projects. Laboratory experience provides opportunities to participate in planning activities, in selecting equipment and materials, in defining the adult role, and in developing techniques for managing children in a group situation.					119
<i>EDU 103 Working with Young Children</i>	3	0	9	6	
Case presentations, films, observations, and group discussions are utilized to study characteristic behaviors of each level of development and to derive guidelines for promoting desirable behaviors and for coping with undesirable behaviors. Laboratory experiences will provide opportunities to develop observation skills, effective techniques, and beginning skill in adapting activities to the needs of individual children. Through coordination with PSY, theories from behavioral science are identified as the foundation of techniques for working with young children. Prerequisite: EDU 102.					
<i>EDU 201 Activities for Young Children</i>	3	0	9	6	
Individual and group exploration of activities and media for promoting optimal overall development of children, with special emphasis on music, art, science, and oral language development. Laboratory experiences provide opportunities to plan and implement a program which demonstrates the adaptability of specified activities and media to a variety of age levels. Prerequisite: EDU 103.					
<i>EDU 202 Seminar-Practicum in Early Childhood</i>	4	0	12	8	
Experience in a variety of child care settings to develop further skill in working with young children, in assisting with programming activities, and in adapting to the needs of individual children. Analysis of individual problems encountered in working with specific age groups.					
<i>EDU 203 The Exceptional Child</i>	3	0	0	3	
Study of children with developmental variations requiring modification in activities. Consideration is given to recognition of problems, community resources, and appropriate activities for the child with exceptional deviations in personality or physical development. Prerequisite: EDU 201 and SOC 201.					
<i>EDU 204 Parent Education</i>	3	0	0	3	
Study of ways parents can be involved in the child development center, of the purposes and value of home visitation, and of techniques for reporting child progress to parents. The role of the early childhood specialist in aiding parents in guidance of the child's development is emphasized. Each student will develop a series of programs appropriate for presentation to the parents of preschool children. Prerequisites: SOC 106 and PSY 202.					
<i>EDU 205 Seminar-Practicum</i>	2	0	15	7	
Seminar on child development problems. Continued experience in a variety of child care facilities. Prerequisite: EDU 202.					
<i>EDU 206 Special Problems in Early Childhood</i>	2	0	0	2	
Directed study of a specialized area of early childhood, appropriate to the individual career interests of students. Prerequisites: EDU 202 and EDU 203.					

## ELECTRICITY

ELC 101 Fundamentals of Electricity 5 0 6 7  
Elementary principles of electricity including basic electric units, Ohm's law

<i>Courses of Instruction</i>	Kirchhoff's law, network theorems, magnetics, basic electrical measuring instruments, inductance, capacitance, sine wave analysis, and nonresonant resistive, inductive and capacitive networks. Prerequisite: None.
120	<i>ELC 102 Fundamentals of Electricity II</i> 5 0 6 7 Series and parallel resonant-circuits analysis, resonant and non-resonant transformer analysis, basic diode power supply analysis, introduction to non-linear resistive control devices, and introduction to electromechanical devices. Prerequisites: ELC 101, and MAT 101.
	<i>ELC 205 Applied Electricity</i> 3 2 0 4 Basic theories of electricity, types of electricity, methods of production, transmission and transforming of electricity. Major topics covered include voltage, amperage, resistance, horsepower, wattage, transformers, DC and AC motors and generators. Prerequisite: MAT 102.
	<i>ELC 1110 Applied Electricity I</i> 3 2 0 4 A detailed study of basic DC circuits involving the structure of matter and electron theory as related to common conductors. Investigates the relationship of current, voltage, resistance, and power in the series, parallel and combination circuits. Also study of DC sources and methods of DC generation as well as the electromagnetic effect. Prerequisite: None.
	<i>ELC 1111 Applied Electricity II</i> 3 2 0 4 Fundamental concepts of alternating current including a study of capacitive and inductive effects and resulting phase angle. A study of power, current, voltage and impedance in the AC circuit as applied to AC power machinery and control devices relating to heating and refrigeration systems. Prerequisite: ELC 1110.
	<i>ELC 1112 Direct and Alternating Current</i> 5 0 12 9 A study of the electrical structure of matter and electron theory, the relationship between voltage, current, and resistance in series, parallel, and series-parallel circuits. An analysis of direct current circuits by Ohm's Law and Kirchhoff's Law. A study of the sources of direct current voltage potentials. Fundamental concepts of alternating current flow, reactance, impedance, phase angle, power, and resonance. Analysis of alternating current circuits. Prerequisite: None.
	<i>ELC 1113 Alternating Current and Direct Current Machines and Controls</i> 5 0 15 10 Provides fundamental concepts in single and polyphase alternating current circuits, voltages, currents, power measurements, transformers, and motors. Instruction in the use of electrical test instruments in circuit analysis. The basic concepts of AC and DC machines and simple system controls. An introduction to the type control used in small appliances such as: thermostats, times, or sequencing switches. Prerequisites: ELC 1112, MAT 1115.
	<i>ELC 1120 Direct and Alternating Current</i> 8 8 6 14 A study of the structure of matter and the electron theory, the relationship between voltage, current and resistance in series, parallel and series-parallel circuits. Analysis of direct current circuits by Ohm's law and Kirchhoff's law; sources of direct current potentials. Fundamental concepts of alternating current flow; a study of reactance, impedance, phase angle, power and resonance and alternating current circuit analysis. Prerequisite: None.
	<i>ELC 1124 Residential Wiring</i> 6 0 9 9 Provides instruction and application in the fundamentals of blueprint reading, planning, layout, and installation of wiring in residential applications such as:

services, switchboards, lighting, fusing, wire sizes, branch circuits, conduits, National Electrical Code regulations in actual building mock-ups. Prerequisites: ELC 1113, DFT 1110. Courses  
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**ELC 1125 Commercial and Industrial Wiring** 5 0 13 9

Layout, planning, and installation of wiring systems in commercial and industrial complexes, with emphasis upon blueprint reading and symbols, the related National Electrical Codes, and the application of the fundamentals to practical experience in wiring, conduit preparation, and installation of simple systems. Prerequisites: ELN 1118, ELC 1124.

## ELECTRONIC DATA PROCESSING (BUSINESS)

**EDP 101 Principles of Business Data Processing** 3 0 3 4

An introductory course designed to acquaint the student with the field of data processing. Includes a historical review of data processing, basic terminology, and fundamental concepts of data processing and programming. Laboratory exercises devoted to familiarizing the student with basic data processing equipment. Prerequisite: None.

**EDP 102 Logic and Decision Making** 2 0 3 3

An introduction to symbolic logic and the application of logic to decision making and programming. Includes simple and compound logic statements, implications and equivalences, and flowcharting techniques. Laboratory exercises involving the development of truth tables and the translation of basic problems into flowcharts. Prerequisite: None.

**EDP 105 Assembly Language Programming I** 5 2 0 6

An introduction to the study of assembly language programming. Includes Assembly Language specifications, operations, and rules for writing source programs. Laboratory exercises devoted to developing program logic and writing Assembly Language programs to solve sample problems. Prerequisites: EDP 101, EDP 102. Corequisite: MAT 111.

**EDP 106 Assembly Language Programming II** 2 4 0 4

A continuation of the study of Assembly Language programming. Covers more complex features of the language and more advanced programming techniques. Laboratory assignments devoted to developing program logic and writing assembly language programs to solve sample problems. Prerequisite: EDP 105.

**EDP 110 COBOL Programming I** 3 2 0 4

An introductory course in compiler language programming utilizing COBOL. Includes COBOL concepts, components, structure, and basic instructions. Laboratory assignments stressing developing of program logic and writing COBOL programs to solve sample problems. Prerequisites: EDP 101, EDP 102. Prerequisite or Corequisite: MAT 111.

**EDP 111 COBOL Programming II** 2 4 0 4

A continuation of the study of COBOL. Includes more complex COBOL instructions and techniques. Laboratory exercises involving developing program logic and writing programs to solve simulated industrial and business problems. Prerequisite: EDP 110.

**EDP 112 COBOL Programming III** 2 4 0 4

A continuation of the study of COBOL emphasizing the more complex features of the language, efficient programming techniques, and debugging techniques.

<i>Courses of Instruction</i>	Laboratory exercises involving developing program logic and writing programs to solve simulated business and industrial problems. Prerequisite: EDP 111.
<i>EDP 201 Computer Systems</i>	3 2 0 4
122	A study of computer systems involving such topics as job scheduling, file devices, file organization, operating systems, job control language, and multi-programming. Prerequisite: EDP 105, EDP 110.
<i>EDP 205 Systems Design and Analysis I</i>	3 2 0 4
	The first of two courses designed to give the student training in systems design and analysis. Emphasis in both classroom and laboratory work on problem definition, file organization, effective retrieval and manipulation of information, and systems design techniques. Prerequisite: EDP 111.
<i>EDP 206 Systems Design and Analysis II</i>	3 2 0 4
	A continuation of Systems Design and Analysis I. Emphasizes the application of principles studied to data processing systems in the business enterprise. Prerequisite: EDP 205.
<i>EDP 210 Language Survey</i>	2 0 0 2
	A survey and comparative study of various computer languages in current use. Stresses the evaluation of languages in terms of utilization in various business applications. Prerequisite: EDP 101.
<i>EDP 220 Research Project</i>	1 8 0 5
	Individual assignments of a carefully selected project. Designed to give the student an opportunity to initiate and carry out a project. Places the responsibility upon the student to solve a significant problem with a minimum of assistance from the instructors. Prerequisite: EDP 206.
<i>EDP 230 Introduction to FORTRAN</i>	3 2 0 4
	An introduction to FORTRAN, a problem-oriented language. Laboratory exercises devoted to the developing of program logic and writing programs using FORTRAN. Prerequisites: EDP 101, EDP 102, MAT 112.
<i>EDP 231 Linear Programming</i>	3 2 0 4
	Lecture and case problems encompassing the use of mathematical programming with computers to increase industrial efficiency. Basic rules of linear programming and related topics presented with laboratory assignments to implement the theoretical aspects. Prerequisites: EDP 111, EDP 230.
<i>EDP 240 PL/I Programming I</i>	3 2 0 4
	An introduction to PL/I programming. Includes basic PL/I concepts, components, structure, and instructions. Laboratory assignments devoted to developing program logic and writing programs using PL/I. Prerequisites: EDP 101, EDP 102.
<i>EDP 241 PL/I Programming II</i>	3 2 0 4
	A continuation of the study of PL/I. Includes more complex PL/I instructions and techniques. Laboratory exercises involving development of program logic and writing of PL/I programs to solve simulated industrial and business problems. Prerequisite: EDP 240.
<i>EDP 250 RPG Programming</i>	3 2 0 4
	An introduction to RPG programming. Laboratory exercises devoted to developing program logic and writing programs in RPG to solve simulated business problems. Prerequisites: EDP 101, EDP 102.

<i>EDP 260 Functional Wiring Principles</i>	3	2	0	4	<i>Courses of Instruction</i>
A course dealing with the utilization of unit record equipment. The fundamentals of wiring necessary to perform basic machine functions of printing, reproducing, comparing, and selection. Laboratory exercises including normal business problems employing unit record equipment. Prerequisite: None.					123

## ELECTRONICS

<i>ELN 105 Control Devices</i>	5	0	6	7
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The study of the physical and electrical characteristics of semiconductor devices, including diodes and transistors. Biasing techniques, stability, and basic application to rectification and amplification processes are covered. Prerequisite: ELC 102, and MAT 102.

<i>ELN 205 Semiconductor Applications I</i>	5	0	6	7
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A study in depth of the analysis and design of transistor circuits pertaining to audio amplifiers and oscillators. Network theorems and equivalent circuits used extensively. H & T equivalent parameters used in design procedures. Prerequisite: ELN 105, and MAT 103.

<i>ELN 210 Semiconductor Applications II</i>	5	0	3	6
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A continuation of ELN 205 which covers the characteristics and basic applications of Field Effect Transistors. In addition, special circuits which include operational amplifiers, differential amplifiers, constant current, and level shifter leading toward integrated circuits. Prerequisites: ELN 205, and MAT 201.

<i>ELN 220 Electronic System Analysis</i>	5	0	3	6
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A block diagram course investigating numerous electronic systems. Arranging of modules or blocks of various circuits already studied in various manners to produce complex electronic systems. Explanation of systems and reduction of systems to functions and then to block diagrams. Digital techniques as applied to systems emphasized. Prerequisite: ELN 240.

<i>ELN 224 Pulse Circuits and Wave Shaping</i>	4	0	3	5
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Study of wave form analysis, basic networks including integrators and differentiators, multivibrators, blocking oscillators, sawtooth generators, and other nonsinusoidal circuits. Basic applications emphasized. Prerequisites: MAT 103, ELN 205.

<i>ELN 235 Industrial Electronics</i>	3	0	3	4
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Broad introduction to the use of industrial electro-mechanical and electronic circuits and mechanisms. Provides a basic understanding of various electrical transducers related to pressure, temperature, light, sound, and humidity; and how they can be applied to their associated circuitry with emphasis on applications. Prerequisite: ELN 205.

<i>ELN 240 Digital Fundamentals</i>	4	0	3	5
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An explanation into the basic digital techniques used in electronic equipment. Includes numbering systems, Boolean algebra, logic circuits, arithmetic circuits, counters and read-out devices. Prerequisites: ELN 205, ELN 224.

<i>ELN 245 Electronic Design Project</i>	0	0	6	2
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Class time devoted to research and design problems, prototype development, and electronic equipment packaging. Lab time devoted to the design and prototype development of some electronic project elected by the student. Prerequisite: ELN 210.

<i>Courses of Instruction</i>	<i>ELN 1118 Industrial Electronics</i>	3 0 6 5
	Basic theory, operating characteristics, and application of vacuum tubes such as: diodes, triodes, tetrodes, pentodes, and gaseous control tubes. An introduction to amplifiers using triodes, power supplies using diodes, and other basic applications. Prerequisite: ELC 1113.	
	<i>ELN 1119 Industrial Electronics</i>	3 0 6 5
	Basic industrial electronic systems such as: motor controls, alarm systems, heating systems and controls, magnetic amplifier controls, welding control systems using thyratron tubes, and other basic type of systems commonly found in most industries. Prerequisite: ELN 1118.	
	<i>ELN 1121 Vacuum Tubes and Circuits</i>	4 4 3 7
	A course in vacuum tube theory. Areas covered in lecture and laboratory: construction and operation of diodes, triodes, tetrodes, pentodes, and other tube types. Analysis of basic circuits such as amplifiers, power supplies, and oscillators. Study of the superheterodyne receiver with an introduction to basic vacuum tube troubleshooting procedures. Prerequisite: ELC 1120.	
	<i>ELN 1122 Transistor Theory and Circuits</i>	6 4 6 10
	A course in semiconductor theory. Devices to be studied: the diode, transistor, FET, Zener diode, SCR, UJT, and integrated circuits. Circuits studied in lecture and laboratory sessions: power supplies, tuned amplifiers, audio amplifiers, oscillators and detectors. An introduction to systems troubleshooting included. Prerequisite: ELC 1120.	
	<i>ELN 1123 Black and White Television Servicing</i>	10 6 9 16
	A study of black and white television receivers. Detailed study of all circuits of the TV receiver in classroom and laboratory sessions. Supervised servicing practice to develop skills in using test equipment to repair and maintain television receivers. Prerequisites: ELN 1121, ELN 1122.	
	<i>ELN 1124 Color Television Servicing</i>	10 8 9 17
	Theory of operation of the television circuits peculiar to color receivers. Includes composite color telecasting signals, color receiver detectors, kinescopes, convergence, and matrix networks. Theory of operations and practical test bench techniques including troubleshooting, alignment, and convergence. Prerequisite: ELN 1123.	

## ENGLISH

<i>ENG 010 Individualized English Grammar</i>	3 2 0 0
This course is designed to reinforce the skills of those students who are weak in English and are not ready to attempt successfully the material in ENG 101.	
<i>ENG 020 Basic Reading Skills and Vocabulary</i>	3 0 0 0
This course is structured to enable the student to develop an awareness of his specific reading needs and the proper steps to take to satisfy these needs. During the course the student will develop an ability to analyze words, to increase his vocabulary, to use a dictionary, and to increase his reading comprehension.	
<i>ENG 026 Clerical Communication</i>	5 0 0 0
This course develops skills in techniques for written and oral communication. Written emphasis is on the fundamentals of business letter writing along with a grammar review. Speaking and listening situations include individual and	

group interaction in making introductions, announcements, interviews, demonstrations, etc.

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**ENG 100 Oral Communication**

3 0 0 3

English 100 is a beginning course stressing the ability to communicate with others and to understand others. The course deals with the basic concepts and principles of oral communications. Emphasis is placed on the speaker's attitude, diction, voice, speaking habits, and the application of these in oral reports, speeches, and discussions. Prerequisite: None.

**ENG 101 Introduction to Written Communication**

3 0 0 3

This course is an introduction to composition which stresses written communication but includes some work on reading, vocabulary, and speech. Readings on subjects of current interest serve as springboards for compositions and speeches. Related vocabulary and helpful spelling and grammar concepts are also included. Prerequisite: None.

**ENG 102 Composition**

3 0 0 3

This course is a continuation of ENG 101, including further work in reading, vocabulary, spelling, grammar, and composition. Reading provides vocabulary and spelling words, and subjects for compositions which enable the student to refine his writing. A unit on conference provides further development in oral communication. Prerequisite: ENG 101.

**ENG 103 Technical Report Writing**

3 0 0 3

The fundamentals of English are utilized as a background for the organization and techniques of modern report writing. Exercises in developing typical reports, using writing techniques and graphic devices, are completed by the student. Practical application in the preparation of a technical report, which is related to the student's chosen curriculum. Prerequisite: ENG 102.

**ENG 115 Appreciation of Literature**

3 0 0 3

The student will sample the literary genres of prose and poetry drawn from varied cultures and periods. He will analyze different styles and techniques of writing used in some of the masterpieces of literature. Prerequisite: None.

**ENG 206 Business Communications**

3 0 0 3

This course develops skills in techniques in writing business communications. Emphasis is placed on writing letters of claim, adjustment, credit, collection, sales, application, and other specific types of business letters. Prerequisite: ENG 102.

**ENG 1101 Communications I**

3 0 0 3

English 1101 is a beginning course in communication skills stressing improvement in reading, speaking, listening, and writing. Prerequisite: None.

**ENG 1112 Communications II**

3 0 0 3

English 1112, the second of a two-part communication course, stresses improvement in speaking and writing. The course deals with communication skills that will aid the student as he goes into the business world. Half of the course deals with methods of communicating effectively, both oral and written. The other half deals with the practical application of these methods. Prerequisite: ENG 1101.

## HEALTH

**IEA 001 Introduction to Health Occupations**

2 0 0 0

A course designed to acquaint students with the various health occupations.

<i>Courses of Instruction</i>	The student will familiarize himself with job criteria, work related responsibilities, and rewards. Realistic goals in health jobs are explored. Prerequisite: None.
126	<i>HEA 010 Human Anatomy</i> 3 0 0 This course is designed to acquaint students with basic knowledge of body systems by tracing system pathways. The student may gain proficiency in medical and biological terminology and may be able to determine his genuine interest in pursuing a health career. Prerequisite: None.
	<i>HEA 101 Personal Hygiene and Health</i> 2 0 0 Study of influences on physical and mental health, individual practices which aid in maintaining good physical and mental health throughout the life span and responsibilities of those working with young children to maintain personal health and to serve as models for health practices. Prerequisite: None.
	<i>HEA 107 First Aid and Emergencies</i> 2 0 0 How to prevent accidents as well as what to do when an accident occurs is covered in this course. Emphasis is placed on preventive measures. Prompt treatment utilizing the proper techniques is also covered in detail so that the student equips himself to make living safer for other individuals. This is a combination of the standard and advanced courses as taught by the American Red Cross. Prerequisite: None.
	<i>HEA 109 Health Services and Ethics</i> 1 0 0 One part of this course will deal with an explanation of the role and function played by the various categories of Allied Health disciplines that comprise Allied Health programs. A study of community health resources will also be included. A second part of the course will deal with imparting an understanding of all aspects of medical ethics, including hospital professionalism and ethical therapist-patient interrelationships where applicable. In the third part of the course, the student shall be introduced to various library resources and keys to the use of each and shall be asked to prepare a written bibliography on an assigned topic. Prerequisite: None.
	<i>HEA 116 Fundamentals of Patient Care</i> 2 0 0 The student gains knowledge and understanding of some of the basic and special needs of the hospitalized individual. Classroom, along with clinical experiences teach the student to apply scientific principles as he utilizes his professional skills in meeting a patient's basic and special needs. Prerequisite: None.
	<i>HEA 139 Topographical Anatomy</i> 2 0 0 The student receives a coordinated approach to aid him in visualizing his patient's anatomy. This reconstructive technique builds the body from the skeleton toward the surface. Living anatomy is stressed throughout, so that surface landmarks and palpations are constant reminders of deeper structures. Prerequisites: BIO 107 and BIO 108.
	<i>HEA 149 General Pharmacology</i> 3 0 0 The course will provide the student with a working knowledge of pharmacological effects, side effects, contraindications, and use of drugs. Sterile preparation and the use of pharmacological measuring systems in preparing drugs will also be covered.
	<i>HEA 169 Fundamentals of Disease Processes</i> 4 0 0 The student is introduced to the major processes involved in producing pathological entities and disorders in man and how such states interfere with normal physiology. After this knowledge of diseases and abnormal states is acquired, it is correlated with the more commonly seen pathology in clinical practices.

Emphasis will then be placed upon the fundamental principles of microbiology, the relationship of microorganisms to disease, modes of transmission, control, and the etiological agents of infectious diseases. Prerequisites: BIO 107, and BIO 108.

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## HEATING

### *HET 1101 Heating Systems*

6 0 15 11

Oil burner fundamentals. Operation, control and service of oil burner systems. Gas heating devices. Operation, control and service of gas burner systems. Installation and servicing electric heating elements and their controls. Principle of operation of hot water and low pressure systems. Installation and servicing of piping, controls, pumps and coils. Prerequisite: None.

## HISTORY

### *HIS 111 American History*

3 0 0 3

In this course the student will survey the development of America from its old world background to the present. Emphasis is placed on major economic, political, and social forces which have contributed to building of American culture. Prerequisite: None.

## INDUSTRIAL

### *ISC 201 Industrial Organization and Management*

3 0 0 3

Organizational structure for industrial management, operational and financial activities, including accounting, budgeting, banking, credit and industrial risk, forecasting of markets, selection and layout of physical facilities; selection, training and supervision of personnel as found in typical industrial organizations. Prerequisite: None.

### *ISC 202 Quality Control*

3 2 0 4

Principles and techniques of quality control and cost saving. Organization and procedure for efficient quality control. Functions, responsibilities, structures, costs, reports, records, personnel and vendor-customer relationships in quality control. Sampling inspections, process control, and tests for significance. Prerequisite: None.

### *ISC 203 Motion and Time Study*

3 2 0 4

Studies include the following: operations analysis, types of process charts, break-even analysis, micromotion analysis, work measurement techniques, predetermined time systems (MTM) and development of standard data for incentive systems. Prerequisite: None.

### *SC 209 Plant Layout*

3 2 0 4

A practical study of factory planning with emphasis on the most efficient arrangements of work areas to achieve lower manufacturing costs. Layouts for small and medium-sized plants, layout fundamentals, selection of production equipment and materials handling equipment. Effective management of men, money and materials in a manufacturing operation. Prerequisites: MEC 201, DFT 102.

## INHALATION THERAPY TECHNOLOGY (RESPIRATORY THERAPY TECHNOLOGY)

*INT 105 Inhalation Therapy Theories and Principles* 5 2 0 6

This course will provide the student with the theories and principles of the function, repair and maintenance of oxygen administration and aerosol administration equipment. The academic knowledge needed to understand the equipment and its management shall be learned and use of miscellaneous equipment will be taught. Prerequisite: None.

*INT 111 Inhalation Therapy Orientation* 0 0 18 6

The student will be provided with an in-depth knowledge of the job description of the various inhalation therapy personnel by following these individuals about the hospital in their daily activities. The student will also be given clinical experience in the use of different medical gases, and the flowmeters and regulators used with them, as well as nebulization therapy and oxygen administration equipment (setting up, administering, maintaining, and cleaning). Prerequisite: None.

*INT 139 Cardiopulmonary Anatomy and Physiology* 2 0 0 2

This course consists of a concentrated study of the structure of the respiratory system and its physiological relation to the heart and blood vessels. The student shall gain a deeper knowledge and be given a more sophisticated approach to these systems. Prerequisites: BIO 107, and BIO 108.

*INT 205 Inhalation Therapy Theories and Principles* 4 2 0 5

This course will provide the student with theories and principles of the function of all type ventilators. The academic knowledge needed to understand the equipment and its management shall be learned. Use of accessory equipment used in conjunction with ventilation will be taught. Prerequisite: INT 105.

*INT 208 Emergency Medicine and Resuscitation* 2 2 0 3

American Red Cross advanced first aid course and cardiopulmonary resuscitation will be taught both by class and lab methods. The role of the inhalation therapist in the emergency room, in community ambulance programs and in disaster control will also be presented. Prerequisite: HEA 107.

*INT 211 Pediatrics* 2 0 0 2

Normal growth and development in the newborn through the pediatric age groups will be covered in depth. Disease processes, primarily pulmonary, involving the pediatric age groups (such as cystic fibrosis and respiratory stress syndrome) will be covered in depth, as will attitudes of the therapist, the patient and the family toward illness in this age group. Prerequisites: INT 105, INT 205, INT 215.

*INT 215 Inhalation Therapy Theories and Principles* 2 2 0 3

This course is designed to give the student the necessary information and mechanical skills to disassemble, repair, modify and reassemble the various types of IPPB equipment and mechanical ventilators. Basically a lab course where by the student learns the principle, function and construction by physically disassembling the equipment from top to bottom. Prerequisite: INT 205.

*INT 218 Practicum* 0 0 18 6

This course is designed to aid the student in gaining supervised experience working with positive pressure in the clinical area. The student will work with all types of patients requiring IPPB and aerosol therapy. The student will set up, operate and maintain said equipment. Prerequisites: INT 205, INT 225, INT 269.

<b>INT 225 Library Research</b>	<b>2 0 0 2</b>	<i>Courses of Instruction</i>
This course is designed to introduce the student to the medical library and to begin to give the student experience in reference searching. The student will be expected, after researching the references provided, to prepare a paper with bibliography, to present the paper, and to answer any questions from the class. Prerequisites: ENG 100, ENG 101.		129
<b>INT 228 Practicum</b>	<b>0 0 12 4</b>	
This course is designed to give the student an opportunity to perform and to demonstrate clinically the knowledge gained in parallel courses. i.e. Chest physiotherapy, emergency medicine and resuscitation, pulmonary function, etc. Prerequisite: INT 218.		
<b>INT 233 Chest Physiotherapy</b>	<b>1 2 0 2</b>	
With class and laboratory experience, the student will learn methods of breathing exercises and segmental bronchial drainage, both in pediatric and adult patients. At this time, an introduction of x-rays and bronchograms will also be provided. (This is started in the Pulmonary Cardiovascular Pathophysiology of the first quarter of the second year.) Prerequisite: INT 269.		
<b>INT 235 Library Research</b>	<b>1 0 0 1</b>	
This course is designed to introduce the student to the medical library and to begin to give the student experience in reference searching. The student will be expected, after researching the references provided, to prepare a paper with bibliography, to present the paper, and to answer any questions from the class. Prerequisite: INT 225.		
<b>INT 238 Practicum</b>	<b>0 0 18 6</b>	
This course is designed to give the student an opportunity to demonstrate and apply knowledge gained in parallel courses, i.e. inhalation therapy department operation, pediatrics, administration of inhalation therapy medicine, assisted and controlled ventilation, etc. Prerequisite: INT 228.		
<b>INT 241 Inhalation Therapy Department Operations</b>	<b>2 0 0 2</b>	
The organization, development and operation of an inhalation therapy department to be taught in-depth by lecture techniques. Record keeping, charting, personnel management will be covered. Prerequisites: INT 263, INT 287, INT 245, INT 211, INT 238.		
<b>INT 248 Practicum</b>	<b>0 0 15 5</b>	
This course is designed to give the student an opportunity to perform and demonstrate knowledge gained in parallel courses. The majority of time will be spent administering therapy to the chronically ill and those patients which require long term ventilation and intensive respiratory care. Prerequisite: INT 238.		
<b>INT 250 Intensive Respiratory Care</b>	<b>3 0 0 3</b>	
An in-depth lecture series involving controlled ventilation of respiratory distress victims using both positive pressure and volume ventilators will be covered. Emphasis will be placed on flow sheets and monitoring techniques provided on a moment to moment and hourly basis. An introduction to arterial blood tap techniques will be provided. Knowledge of endotracheal and tracheotomy airway care for these patients will be stressed. Prerequisites: INT 105, INT 205.		
<b>INT 263 Advanced Inhalation Therapy Techniques and Theories</b>	<b>2 2 0 3</b>	
Through lecture techniques, the student will be presented information on heart-lung pumps, membrane oxygenators, hyperbaric oxygenation, and other		

<i>Courses of Instruction</i>	experimental developments. Prerequisites: INT 241, INT 287, INT 245, INT 211, INT 238.	
130	<i>INT 268 Pulmonary Function</i>	3 0 0 3
	The course will cover normal and abnormal pulmonary functions as well as acid-base physiology in health and disease processes. The student will learn how to perform pulmonary function studies, blood gas analysis, and expired and inspired gas analysis. He will learn the function and maintenance of pulmonary function and blood gas analysis equipment. Prerequisites: INT 105, INT 205.	
	<i>INT 269 Pulmonary and Cardiovascular Pathophysiology and Pulmonary Mechanics</i>	6 0 0 6
	This course will cover the pathophysiology of disease entities that primarily involve the pulmonary system and all of the cardiovascular system. The etiology, pathophysiology, abnormal pulmonary mechanics, and a brief description of the treatment of each disease process will be covered. Prerequisites: BIO 107, BIO 108, HEA 169, INT 139.	
	<i>INT 287 Inhalation Therapy Pharmacology</i>	1 0 0 1
	This course, through lectures and laboratory experience, will provide the student with a working knowledge of pharmacological effects, side effects, contraindications, and use of inhalation therapy drugs and autonomic nervous system drugs. The student will receive supervised lab experience in sterile preparation and use of pharmacological measuring systems in preparing the drugs. Prerequisites: INT 263, INT 241, INT 245, INT 211, INT 238.	
	<i>INT 294 Advanced Respiratory Care</i>	2 0 0 2
	Continuation of advanced Respiratory Care. Time of review and explanation of techniques, patient care, and case examples will be taught in great detail. Prerequisites: All INT courses in fourth, fifth, sixth and seventh quarters or with instructor's permission.	
	<i>INT 296 Special Clinical Rotation</i>	0 0 21 7
	Combined class and clinical experience on a two week rotation of 20 hours per week. Prerequisite: INT courses in quarters four through seven or with instructor's permission.	

## MACHINE AND MECHANICAL

<i>MEC 001 Introduction to Engineering Technology</i>	2 0 0 0
A course designed to expose the student to the fields of engineering and the various functions that exist, i.e. research, development, design, production, construction and sales and to give him exposure to his professional environment. The role of the engineering technician is identified and future employment possibilities are investigated.	
<i>MEC 101 Machine Processes I</i>	1 0 6 3
An introductory course designed to acquaint the student with basic hand tools, safety procedures and machine processes in our modern industry. Will include a study of measuring instruments, characteristics of metals and cutting tools. Will familiarize student with the lathe family of machine tools by performing selected operations such as turning, facing, threading, drilling, boring, and reaming. Prerequisite: None.	
<i>MEC 102 Machine Processes II</i>	1 0 6 3
Advanced operations on lathe, drilling, boring, and reaming machines. Study	

of milling machines and cutters, shapers and slotter, planers, grinding and finishing machines. Prerequisite: MEC 101.	5 0 0 5	Courses of Instruction 131
<b>MEC 104 Applied Mechanics</b>	5 0 0 5	
Concepts and principles of statics. Parallel, concurrent and non-concurrent force systems in coplanar and noncoplanar situations. Concepts of centroids and center of gravity, moments of inertia. Prerequisites: MAT 103, PHY 111.		
<b>MEC 192 Orientation to Manufacturing Engineering Technology</b>	1 0 0 1	
Designed to acquaint the students with the field and with future employment opportunities. The role of the manufacturing engineering technician identified. Prerequisite: None.		
<b>MEC 201 Manufacturing Processes I</b>	1 0 6 3	
Includes gear design and the processes of gear manufacturing. Includes study and use of numerical control machining with manual programming. Study of punching and forming, chipless machining, and casting, basic materials and semi-conductor work. Prerequisite: MEC 102.		
<b>MEC 202 Manufacturing Processes II</b>	2 0 6 4	
Emphasizes newer concepts of work handling and automatic machining processes. Concentrated study of production methods in manufacturing. Prerequisite: MEC 201.		
<b>MEC 203 Welding Processes</b>	2 0 3 3	
A basic study of all popular welding processes. Includes basic gas welding, basic arc, M.I.G., T.I.G., automatic flame cutting and process, application. Operation of each process to a limited extent required. Prerequisite: None.		
<b>MEC 205 Strength of Materials</b>	3 2 0 4	
Study of principles and analysis of stresses which occur within machine and structure elements subjected to various types of loads such as static, impact, varying and dynamic. Analyses of these stresses made as applied to thin-walled cylinders and spheres, riveted and welded joints, beams, columns and machine components. Prerequisites: MEC 104, MAT 103.		
<b>MEC 210 Ferrous Metallurgy</b>	3 0 3 4	
Introductory course in metallurgy, basic study of the properties of metals and alloys. Analysis of the structure of metals and alloys, atomic structure, nuclear structure, and nuclear reactions. Solid (crystalline) structures, methods of designating crystal planes, liquid and vapor phases, phase diagrams, and alloy systems. Prerequisite: PHY 112.		
<b>MEC 211 Non-Ferrous Metallurgy and Heat Treatment</b>	3 0 3 4	
A study including the properties of metals and alloys, the reactions of metals, diffusion, carburizing, metal bonding and homogenization, recrystallization and grain growth, age hardening, nitriding, internal oxidation, heat treatment of steel, laboratory experiments and demonstrations. Prerequisite: MEC 210.		
<b>MEC 230 Plant Services</b>	3 2 0 4	
The major areas covered include air conditioning theory and design, air compressors, boilers and steam piping systems, water treatment, waste treatment and pollution control, and analysis of fuel systems. Prerequisite: None.		
<b>MEC 235 Fluid Power</b>	3 0 3 4	
The basic theories of hydraulic and pneumatic systems. Combinations of systems in various circuits. Basic designs and functions of circuits and motors, controls, electrohydraulic servomechanisms, plumbing, filtration, accumulators and reservoirs. Prerequisite: PHY 111.		

<i>Courses of Instruction</i>	<i>MEC 237 Control Systems</i>	<i>3 2 0 4</i>
132	Basic principles of electrical and electronic control systems as related to industrial application. Basic design and functions of circuits, motors, transducers, and servomechanisms. Review of the National Electrical Code. Prerequisites: ELC 205, MAT 103.	
	<i>MEC 1101 Machine Shop Theory and Practice I</i>	<i>3 0 12 7</i>
	An introduction to the machinist trade and the potential it holds for craftsmen. Deals primarily with the identification, care and use of basic hand tools and precision measuring instruments. Elementary layout procedures and processes of lathe, drill press, grinding (off-hand) and milling machines introduced both in theory and practice. Prerequisite: None.	
	<i>MEC 1102 Machine Shop Theory and Practice</i>	<i>3 0 12 7</i>
	Advanced operations in layout tools and procedures, power sawing, drill press, surface grinder, milling machine shaper. Will be introduced to the basic operations of the cylindrical grinder and select projects encompassing all the operations, tools and procedures thus far used and those to be stressed throughout the course. Prerequisite: MEC 1101.	
	<i>MEC 1103 Machine Shop Theory and Practice</i>	<i>4 0 12 8</i>
	Advanced work on the engine lathe, turning, boring and threading machines, grinders, milling machine and shaper. Introduction to basic indexing and terminology with additional processes on calculating, cutting and measuring of spur, helical, and worm gears and wheels. Use of precision tools and measuring instruments such as vernier height gages, protractors, comparators, etc. Basic exercises given on the turret lathe and on the tool and cutter grinder. Prerequisite: MEC 1102.	
	<i>MEC 1104 Machine Shop Theory and Practice</i>	<i>4 0 15 9</i>
	Development of class projects using previously learned procedures in planning, blueprint reading, machine operations, final assembly and inspection. Additional processes on the turret lathe, tool and cutter grinder, cylindrical and surface grinder, advanced milling machine operations, etc. Special procedures and operations, processes and equipment, observing safety procedures faithfully and establishing of good work habits and attitudes acceptable to the industry. Prerequisite: MEC 1103.	
	<i>MEC 1112 Machine Shop Processes</i>	<i>1 0 3 2</i>
	To acquaint the student with the procedures of layout work and the correct use of hand and machine tools. Experiences in the basic fundamentals of drill press and lathe operations; hand grinding of drill bits and lathe tools; set-up work applied to the trade. Prerequisite: None.	
	<i>MEC 1113 Shop Processes</i>	<i>2 0 3 3</i>
	Study of practices used in metalworking shops; introduction to how materials can be utilized, and to the processes of shaping, forming and fabricating of metals. Demonstration of the metalworking lathes, grinders, drills, milling machines, shapers, planers, saws, broachers, gear cutting machines and finishing machines. A study of the capabilities of these machines. Prerequisite: None.	
	<i>MEC 1114 Shop Processes</i>	<i>2 0 3 3</i>
	Comparison of the unit-production and mass-production systems. Casting, forging and allied processes, welding and sheet metal working processes demonstrated and discussed. Mass-production methods studied in relationship to precision dimensional control. Prerequisite: MEC 1113.	
	<i>MEC 1115 Treatment of Ferrous Metals</i>	<i>2 0 3 3</i>
	Investigates the properties of ferrous metals and tests to determine their uses.	

Will include some chemical metallurgy to provide a background for the understanding of the physical changes and causes of these changes in metals. Topics for study: physical metallurgy of ferrous metals, producing iron and steel, theory of alloys, shaping and forming, heat treatments for steel, surface treatments, alloy of special steel, classification of steels, and cast iron. Prerequisite: None.

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of  
Instruction*  
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**MEC 1116 Treatment of Non-Ferrous Metals** 2 0 3 3

Continuation of the study of physical metallurgy. Study of the non-ferrous metals: bearing metals (brass, bronze, lead), light metals (aluminum and magnesium), and copper and its alloys. Powder metallurgy, titanium, zirconium, indium and vanadium included in this course. Prerequisite: MEC 1115.

**MEC 1120 Machine Processes** 1 0 6 3

Study of practices used in metalworking shops: introduction to how materials can be utilized. Demonstration of the metalworking lathes, drills, milling machines, shapers, and a study of the capabilities of these machines. Prerequisite: None.

## MATHEMATICS

**MAT 001 Structure of Arithmetic** 5 0 0 0

This course is designed to help the student gain and improve his computational skills. Instruction is in the basic operations of arithmetic to include addition, subtraction, multiplication, division, fractions, decimals, and percentage.

**MAT 002 Pre-Business Mathematics** 5 0 0 0

This course is a review and reinforcement of the basic mathematical skills used in business mathematics.

**MAT 003 Algebra** 5 0 0 0

A course designed to provide the student with the basic understandings and manipulative skills of elementary algebra.

**MAT 004 Pre-Technical Mathematics** 5 0 0 0

A remedial course for pre-engineering technology students having a deficiency in algebra and geometry. Basic concepts of algebra, trigonometry, and geometry are covered. It includes the properties of the real number system, equations, functions, variables, and exponents.

**MAT 005 Geometry** 5 0 0 0

A course designed to provide the student with the basic understandings and manipulative skills of elementary geometry.

**MAT 020 Mathematics for Health Education** 3 0 0 0

This course is designed to help the student gain and improve his computational skills. Instruction is in the basic operations of arithmetic to include addition, subtraction, multiplication, division, fractions, decimals, and percentages. It will also include simple algebraic equations, powers of 10, and metric units.

**MAT 113 Allied Health Mathematics I** 3 0 0 3

The first of a series of two courses designed to develop and maintain a high level of proficiency in basic mathematical skills and units of the measurement and to apply this knowledge to problems dealing with patient care. Topics covered are: fundamental facts about whole numbers, use of the slide rule and expanded notation, fractions, positive and negative numbers and percent. Prerequisite: None.

<i>Courses of Instruction</i>	<b>MAT 114 Allied Health Mathematics II</b>	3 0 0 3
134	The second of a series of two courses designed to develop and maintain a high level of proficiency in basic mathematical skills. Topics covered are: squares and square roots, logarithms, algebra, ratio and proportion, statistics (graphing, metric, English and Apothecary systems of measurement), mathematics of drugs and solutions. Prerequisite: MAT 113.	
	<b>MAT 101 Technical Mathematics I</b>	5 0 0 5
	A course in mathematics designed to support all technology courses. In scope, the course consists of a short review of the basic fundamentals of algebra; the use of the standard (log log) engineer's slide rule; functions and graphs; trigonometric functions; linear equations and determinants; factoring and fractions; solution of quadratic equations; trigonometric functions of any angle or number; exponents and radicals; and the j-operators. Prerequisite: Satisfactory score on mathematics placement test or passing grade in Pre-Technical Mathematics.	
	<b>MAT 102 Technical Mathematics II</b>	5 0 0 5
	A course in mathematics designed to support all technology courses. In scope, the course consists of vectors and oblique triangles, graphs of trigonometric functions, logarithms, solutions of algebraic and trigonometric equations, inequalities, progressions and advanced topics in trigonometry. Prerequisite: MAT 101.	
	<b>MAT 103 Technical Mathematics III</b>	5 0 0 5
	A course in mathematics designed to support the technology course. The student is introduced to the fundamental concepts of analytic geometry, differential and integral calculus. In scope, the course covers the straight line, the conics, limits, the geometric and algebraic interpretation of the derivation, applications of the derivate, tangents and normals, curvilinear motion, related rates, curve sketching, maximum and minimum, integration and applications (area and volume). Prerequisite: MAT 102.	
	<b>MAT 110 Business Mathematics</b>	5 0 0 5
	Emphasis on the fundamental operations and their application to business problems. Topics covered include sales records, inventories, commissions, markups, depreciation, and interest. Prerequisite: None.	
	<b>MAT 115 Police Mathematics</b>	3 0 0 3
	A general review of fundamental mathematics with special emphasis on applications peculiar to the field of law enforcement. Topics studied are: formulas, ratio and proportion, percentage, right angle trigonometry, graphing, metric units. Prerequisite: None.	
	<b>MAT 160 Engineering Computations</b>	1 0 3 2
	A practical course in using calculation devices. Included: slide rule review, use of a programmable electronic calculator, and an introduction to computers. Emphasis is on programming as a mathematical tool. Prerequisite: MAT 102.	
	<b>MAT 201 Technical Mathematics IV</b>	5 0 0 5
	A course in mathematics designed to support the Electronics Technology course at Forsyth Technical Institute. In scope, the course is a continuation and extension of this school's MAT 103. More advanced concepts of differentiation and integration are covered; additional applications of these concepts and techniques; the maclaurin series; certain operation with series and computations by use of series expansions.	
	<b>MAT 208 Calculus for Electronics</b>	5 0 0 5
	Derivation of mathematical equations applied to Electronics. Average, RMS,	

harmonic content of sinusoidal and complex waveforms; transfer functions as applied to coupling networks, filters, and attenuators. Prerequisite: MAT 201. **Courses of Instruction** 135

**MAT 1100 Mathematics for Practical Nursing** 2 0 0 2

A course designed to review and reinforce the computational skills and mathematical principles used in practical nursing.

**MAT 1101 Fundamentals of Mathematics** 5 0 0 5

Practical number theory, analysis of basic operations: addition, subtraction, multiplication and division. Fractions, decimals, powers and roots, percentages, ratio and proportion. Plane and solid geometric figures used in industry; measurement of surfaces and volumes. Prerequisite: None.

**MAT 1102 Algebra** 5 0 0 5

Basic concepts and operations of algebra: historical background of our base - 10 number system; algebraic operations: addition, subtraction, multiplication and division; fractions, letter representation, grouping, factoring, ratio and proportions, variations, graphical and algebraic solution of first degree equations; solution of simultaneous equations by: addition and subtraction, substitution, graphing, exponents, logarithms, tables and interpolation. Prerequisite: None.

**MAT 1103 Geometry** 3 0 0 3

Fundamental properties and definitions; plane and solid geometric figures, selected general theorems, geometry construction of lines, angles and plane figures. Dihedral angles, areas of plane figures, volume of solids. Geometric principles applied to shop operations. Prerequisite: None.

**MAT 1104 Trigonometry** 3 0 0 3

Trigonometric ratios, solving problems with right triangles, using tables and interpolating; solution of oblique triangles using law of sines and law of cosines; graphs of the trigonometric functions; inverse functions, trigonometric equations. All topics applied to practical problems. Prerequisite: MAT 1102.

**MAT 1113 Carpenter's Mathematics and Estimating** 5 0 0 5

Practical problems which the carpenter must frequently solve. Emphasis upon any weaknesses in the basic mathematical operations with instruction and practice of the needed operation. Problems involving common fractions, decimals, power and roots, percentages, and ratio and proportion.

**MAT 1114 Carpenter's Mathematics and Estimating** 3 0 0 3

A continuation of MAT 1113 including problems dealing with plane and solid geometric figures and the measurement of surfaces and volumes. An introduction to algebra used in the trade. Basic estimating practices for building materials. Prerequisite: MAT 1113 or equivalent.

**MAT 1115 Elements of Mathematics** 5 0 0 5

A course designed for the radio-TV program to include: review of arithmetic, powers of ten, elementary algebra, trigonometry, vectors, and logarithms. Prerequisite: None.

**MAT 1116 Electrical Mathematics** 5 0 0 5

A study of fundamental concepts of algebra; basic operations of addition, subtraction, multiplication, and division; solution of first order equations, use of letters and signs, grouping, factoring, exponents, ratios, and proportions; solution of equations, algebraically; a study of logarithms and use of tables; and introduction to trigonometric functions and their application to right angles; and a study of vectors for use in alternating current. Prerequisite: None.

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<b>MAT 1117</b>	<i>Plumber's Arithmetic</i>	<b>4 0 0 4</b>
Composed primarily of practical problems which the plumber must frequently solve. Emphasis upon instruction and practice in areas of deficiency in basic mathematics. Use of problems involving common fractions, decimals and percentages. Prerequisite: None.		

<b>MAT 1150</b>	<i>Printer's Mathematics</i>	<b>5 0 0 5</b>
This course deals with the printer's point system as it applies to type spaces, furniture, and other spacing materials as well as problems in spacing out lines and centering heads. Instruction and practice will be given in reading a micrometer. Problems in cutting paper economically and in figuring the amount, also problems dealing with measuring the thickness of papers and offset plates. Prerequisite: None.		

## NUCLEAR MEDICINE TECHNOLOGY

<b>NMT 111</b>	<i>Principles of Nuclear Medicine I</i>	<b>2 0 9 5</b>
This is an introductory course in clinical nuclear medicine. All major clinical nuclear medicine procedures will be introduced. Prerequisite: None.		

<b>NMT 116</b>	<i>Nuclear Physics</i>	<b>2 0 0 2</b>
Nuclear decay schemes and more complicated concepts of radioactive decay are discussed. Interactions of radiation with matter and the calculation and measurement of radiation doses are included. Prerequisites: PHY 105, and PHY 106.		

<b>NMT 117</b>	<i>Health Physics</i>	<b>1 0 0 1</b>
Protective regulations, monitoring methods, and techniques for reducing exposure of patients and technologists, as well as Atomic Energy Commission and state requirements, will be studied. Prerequisite: None.		

<b>NMT 125</b>	<i>Film Processing</i>	<b>2 2 0 3</b>
The student shall be taught how to process exposed radiographic plates. He must be able to demonstrate a proficiency for distinctly readable final product. Prerequisite: None.		

<b>NMT 221</b>	<i>Principles of Nuclear Medicine II</i>	<b>2 0 0 2</b>
This course will cover in detail the clinical procedure in Nuclear Medicine pertaining to the thyroid, parathyroid and gastrointestinal tract. Prerequisite: NMT 111.		

<b>NMT 223</b>	<i>Radiopharmaceuticals</i>	<b>2 0 0 2</b>
Students will receive classroom instruction related to radiopharmacy functions, production of radionuclides and radiopharmacy mathematics. Prerequisite: None.		

<b>NMT 230</b>	<i>Nuclear Medicine Instrumentation</i>	<b>2 0 0 2</b>
The basic theory concerning interaction of radiation in gases, liquids and solids, and the application of this and radiation detectors (ion counters, G.M. Counters, scintillation counters) are presented. Emphasis is placed upon solid scintillation detectors, amplifiers, spectrometers, ratemeter and scalers. Prerequisite: NMT 116.		

<b>NMT 231</b>	<i>Principles of Nuclear Medicine III</i>	<b>2 0 0 2</b>
This course pertains to the cardiovascular central nervous system and pulmonary system. Prerequisites: NMT 111, NMT 221.		

**NMT 233 Radiopharmaceuticals** 2 0 0 2 **Courses of Instruction**  
Students will receive instructions related to preparation and quality control of radiopharmaceuticals, radiopharmacology and radiopharmacy health physics.  
Prerequisite: NMT 223. 137

**NMT 238 Nuclear Medicine Chemistry** 1 0 0 1

The fundamentals of the competitive protein-binding assay are discussed with emphasis on those techniques presently used in the nuclear medicine laboratory. The essentials of pH, acid-base interactions, protein structure and chemistry are introduced as these pertain to the understanding of competitive protein-binding assays. Prerequisite: CHM 103.

**NMT 240 Nuclear Medicine Instrumentation** 2 0 0 2

Students will study in detail the design and use of specific instruments utilized in clinical nuclear medicine. Prerequisite: NMT 230.

**NMT 241 Principles of Nuclear Medicine IV** 2 0 0 2

This course pertains to the genitro-urinary system, placenta, osseus system, and hematopoetic system. Prerequisites: NMT 111, NMT 221, NMT 231.

**NMT 269 Practicum I** 0 0 30 10

To be divided into (3) parts.

1. In a clinical area the student is exposed to and participates in a variety of Nuclear Medicine procedures.
2. Basic instrumentation will be supervised experiments on equipment located in the Nuclear Medicine Department.
3. Participation in the procurement production and handling of radiopharmaceuticals.

Prerequisite: None.

**NMT 274 Practicum II** 0 0 30 10

Students will be exposed to the more advanced applications in Nuclear Medicine procedures. Radiopharmaceuticals and instrumentation. With supervised participation the student performs assigned task in the clinical area. Prerequisite: NMT 269.

**NMT 279 Practicum III** 0 0 36 12

Students will develop the knowledge in clinical application of clinical compounds, a better understanding of radiation effects, radiation exposure and biological effects. Prerequisite: NMT 274.

**NMT 284 Practicum IV** 0 0 39 13

A more detailed study in the design and use of specific instruments utilized in clinical nuclear medicine, performs more advanced studies in in-vito procedures employing radioisotopes and practical therapeutic use of radionuclides. Prerequisite: NMT 279.

**NMT 289 Radiobiology** 2 0 0 2

This is a course in which the fundamentals of radiobiology, a system's sensitivity to radiation (normal and neoplastic), radiation pathology, and the biological effects of radiation are stressed with emphasis placed upon the effects of radiation and the effects of radiation absorption on tissue and tissue recovery rate. Prerequisite: NMT 116.

## NURSING

**NUR 101 Nursing I** 3 0 9 6  
Provide the students orientation to the field of health and the normal basic

*Courses of Instruction* 138 needs of man. Explores the events which have influenced the practice of nursing, the role of the nurse, and the way in which a community provides health services. Utilizes knowledge of basic needs in developing beginning skill in meeting the basic needs of man. Placement: First quarter, First year. Prerequisite: None.

**NUR 102 Nursing II**

4 0 12 8

This course is designed for the student to progress from what is already known to increased knowledge of the need for food and fluids by man. Content will involve scientific principles of food metabolism, function of food elements, factors influencing diet, fluid and intake, and the need for elimination. Laboratory experiences will be provided in the school and a general hospital. Placement: Second quarter, First year. Prerequisite: NUR 101.

**NUR 103 Nursing III**

4 0 12 8

This course will focus on three basic needs of man, the need for oxygen, communication, and self esteem. Course will include factors basic to maintaining an adequate oxygen-supply to all body cells and identifying signs and symptoms indicating a need for oxygen. It will explore various methods of the administration of oxygen. The focus on needs for communication is person to person, nurse-patient, and involves the beginning use of nursing care plans for communication with the team based on scientific principles. Self esteem as a need is approached from the normal and is applied by the adaption of nursing intervention to support the component of self esteem, while recognizing own feelings that are influencing the perspectives. Course will include use of conferences in school and a general hospital with laboratory practice. Placement: Third quarter, First year. Prerequisites: NUR 101, NUR 102.

**NUR 104 Nursing IV**

4 0 12 8

This course is designed for the purpose of the student to increase concentration on the basic needs of man. Utilizing the basis of known normal needs, the alteration of needs as are inherent in physical or emotional health problems will be considered in developing nursing care. The health problems in this country will be scrutinized from the standpoint of physical-mental illnesses. Specific psychiatric nursing is integrated as a health problem with those of medical-surgical origin through use of psycho-dynamic process and attention to emotional disorders, treatment, and nursing care.

Laboratory: General hospital, special hospitals, clinics and other community health agencies.

Placement: Fourth quarter, First year. Prerequisites: NUR 101, NUR 102, NUR 103.

**NUR 201 Nursing V**

4 0 12 8

The purpose of this course is to study the total maternity cycle with emphasis on family-centered care. Theory of pregnancy, childbirth, child-family relationships, normal and abnormal. The student will have interaction with the well child in the home, child care centers, and public or private schools. Care for the sick child will be learned in clinics, hospitals, and doctors offices. Planning for and meeting the health needs of parents and children will be the center of attention throughout the course. Placement: Second quarter, Second year. Prerequisites: NUR 101, NUR 102, NUR 103, and NUR 104.

**NUR 202 Nursing VI**

5 0 12 9

This course is designed to study the nursing needs of the person having physical-mental problems of an intermediate nature, and will increase skills in working with the total health team in providing care. Provision will be made where possible for follow-through care where referrals to the Public Health Nursing Bureau or clinics have been made. Placement: Second quarter,

Second year. Prerequisites: NUR 101, NUR 102, NUR 103, NUR 104, and NUR 201.	<i>Courses of Instruction</i>
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### **NUR 203 Nursing VII**

4 0 18 10

This course provides opportunities to provide total care for patients with acute and serious physical-mental health problems of the major list in the United States. Concentration on patients requiring advanced skills in the assessment, planning, and administration of care to reverse serious alteration of basic needs, will prevail throughout the course. Experiences will be selected from the areas of medical-surgical and psychiatric nursing. Laboratories, hospitals, and other agencies in the community will be used. Placement: Third quarter, second year. Prerequisites: NUR 101, NUR 102, NUR 103, NUR 104, NUR 201, and NUR 202.

### **NUR 204 Nursing Trends Seminar**

2 0 0 2

This course is designed to involve the student in the exploration of nursing in present day society. Current issues in nursing and nursing education will be explored as they relate to the role and responsibilities of the nurse for providing health care to the public. The activities for securing license to practice, participation in professional organizations, continuing education, and community action are introduced. Prerequisite: None.

## **NUTRITION**

### **NUT 102 Nutrition for Young Children**

2 0 3 3

Study of basic nutrition, with emphasis on (1) methods of helping young children and their families learn nutritional concepts and (2) planning balanced diets for preschool children. Prerequisite: None.

## **PHYSICS**

### **PHY 001 Pre-Technical Physics**

5 0 0 0

A review of some of the basic concepts of physics. The topics included are systems of measurement, force and motion, and the properties of materials. Emphasis is placed on laboratory procedures and graphical analysis.

### **PHY 111 Physics — Mechanics**

3 2 0 4

A fundamental course which develops the concepts of force, motion, work, energy and power. Also included are the topics of vector analysis, rotational motion and basic machines. Co-requisite MAT 102.

### **PHY 112 Physics — Materials and Heat**

3 2 0 4

A course which examines the properties of solids, liquids at rest and in motion, the gas laws and their application, heat and thermodynamics. Emphasis is on practical application through the use of realistic problems and laboratory exercises. Prerequisite: PHY 111.

### **PHY 113 Physics — Electricity**

3 2 0 4

A study of the basic principles of electricity including electron theory, direct current circuits, alternating current circuits, electro-magnetic interactions and batteries. Emphasis is on practical application through the study of electrical power generating, transmission and conversion devices. Prerequisite: PHY 111.

### **PHY 114 Physics — Light and Sound**

3 2 0 4

A study of wave motion and the generation, transmission and detection of

sound and light. Topics include acoustics, illumination, optical devices and lasers. Practical application is emphasized through exercises in acoustical analysis of buildings and lighting system design and layout. Prerequisite: PHY 111.

*PHY 105 Physics — Introductory*

3 0 0 3

This is an introductory physics course intended for those who have not had previous study in the field. Basic concepts in kinematics, heat, light, sound, electricity and atomic physics are stressed. Prerequisite: MAT 113.

*PHY 106 Physics — Nuclear and Electronic*

3 0 0 3

This course is geared to electronics; it presents a study of basic electronic instruments, their theory of operation, function, tolerances, and calibration. Principles of both service and laboratory instruments will be studied. Also, basic principles of nuclear physics are included. Prerequisites: PHY 105, and MAT 113.

*PHY 107 Physics — Gases*

2 0 0 2

A working knowledge of the gas laws and their practical application is the gas laws in the objective of this course. Emphasis will be placed both on flow of gases through tubes and orifices and on respiratory care equipment. Prerequisites: PHY 105, MAT 113 and MAT 114.

*PHY 216 Radiation Physics*

3 0 0 3

The basic principles behind matter, radioactivity, magnetism, electricity, electro-magnetism, cords, and circuits as related to x-ray technology. Prerequisite: PHY 106.

*PHY 1101 Applied Science I*

3 2 0 4

An introduction to some physical principles and their application in industry. Topics included are measurements in the English and metric system; properties of solids, liquids and gases. Practical application is stressed by use of realistic problems and laboratory exercises.

*PHY 1102 Applied Science II*

3 2 0 4

A study of the concepts of force, motion, work, energy, power and heat. Practical applications are realized through the study of friction and simple machines, and the relationship between thermal and mechanical energy.

*PHY 1103 Fundamentals of Electricity*

3 2 0 4

Elementary principles of electricity including the structure of matter and electron theory, basic electrical units, the relationship of current, voltage, resistance and power in series, parallel, and combination circuits. Emphasis is on DC circuits as well DC sources and methods of generation. The electromagnetic effect is introduced.

*PHY 1104 Applied Science IV*

3 2 0 4

A study of wave motion and sound and light. Practical applications are stressed through the study of acoustics, musical rounds, color mixing, optical devices, illumination and the laser.

*PHY 1114 Science for Printers*

3 2 0 4

A study of the basic principles of chemistry and physics used in the printing industry. The topics studied in chemistry include the basic properties of matter, physical and chemical changes, oxidation — reduction, papermaking and photo-chemical reactions. The topics studied in physics include theories of light, reflection, refraction, illumination, color, and camera optics.

*PHY 1115 Science for Air Conditioning and Heating*

3 2 0 4

This course is designed to cover those physics principles of special significance

in air conditioning and heating. Some topics covered are properties of gases, heat transfer, liquid and gas pressures, weights and measures in English and metric units, thermodynamic properties of moist air, unique properties of water and water treatment. Prerequisite: None.

*Courses  
of  
Instruction*  
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## PLUMBING

**PLU 1112 Plumbing Fixtures and Installation** 2 0 3 3

The differences in materials and styles of lavatories, bathtubs, and sinks, and the many ways that these fixtures can be installed form the basis of this course. Includes the proper use of traps. Actual student practice by making installations. Prerequisite: None.

**PLU 1116 Plumbing Pipework and Domestic Water Systems** 5 0 15 10

Introduces students to the tools, fittings, and small equipment used by plumbers. Performance of operations such as threading, cutting, caulking, and sweating. Use of these procedures as the student learns to plan and install a complete domestic water system including hot and cold water distribution, heating devices, and the storage of hot water, and private and public sewage and drainage systems including their ventilation. Prerequisite: None.

**PLU 1120 Maintenance and Trouble Shooting** 3 0 18 9

Major emphasis on plumbing maintenance and the problems which the students pursuing the plumber's trade must encounter. Study of regulatory codes, standards and procedures of coal and electrical heating, smoke and nuisance controls and installations. Good practices governing the complex field of space heating with emphasis on furnaces, boilers, heaters, ducts, radiation, safety, and control of air pollution. Course designed to aid in the prevention of fires, explosions, asphyxiations, and wasteful use of materials by employment of good maintenance. Prerequisites: PLU 1116, PLU 1122, PLU 1123.

**PLU 1122 Low and High Pressure Steam Systems** 5 0 12 9

Familiarization with types of low and high pressure steam boilers and the principles of boiler operation. Includes boiler accessories such as connectors, fittings, and insulation; equipment used in heat transmission, such as radiators, coils and connectors. Low pressure steam systems, their layout and component parts studied and installed. Principles involved in industrial applications of both low pressure and high pressure steam equipment. Prerequisites: PLU 1116, DFT 1110.

**PLU 1123 Hot Water and Panel Heating** 3 0 7 5

Study of the piping and accessory equipment needed to transfer hot water to radiators, heaters and coils, and the advantages and disadvantages of each of these units, including apparatus for radiant heating and panel heating. Methods of "sizing" equipment for various installations. Practical application in installing this equipment. Prerequisite: PLU 1116.

**PLU 1125 Industrial Piping** 2 0 6 4

Major emphasis upon piping systems of boilers, turbines, and steam engines especially as they are used in the chemical industry. Prerequisites: PLU 1112, WLD 1101.

**PLU 1126 Hydraulic Systems Plumbing** 2 0 3 3

Plumbing applications in hydraulic systems. Study of hydraulic principles, circuits, control valves, actuators, pumps, fluids, and various accessories that complete hydraulic systems. Installation and servicing methods of these systems. Prerequisite: PLU 1116.

<i>Courses of Instruction</i>	<i>PLU 1130 Plumbing Layouts and Codes</i>	<i>4 0 6 6</i>
142	Sketching diagrams and schematics and interpretation of blueprints applicable to the plumbing trades. Detailed study of piping symbols, schematics, diagrams and notes. Use of applicable building and plumbing codes. Prerequisites: DFT 1110, PLU 1116.	

## POLICE SCIENCE

<i>PSC 101 Introduction to Law Enforcement</i>	<i>5 0 0 5</i>
A general course designed to familiarize the student with a philosophy and history of law enforcement, including its legal limitations in a democratic republic, a survey of the primary duties and responsibilities of the various law enforcement agencies, a delineation of the basic processes of justice, an evaluation of law enforcement's current position, and an orientation relative to law enforcement as a vocation. Prerequisite: None.	
<i>PSC 110 Police Role in Crime and Delinquency</i>	<i>5 0 0 5</i>
The study primarily concerned with scientific efforts to understand crime and to understand man in relation to crime phenomena. It deals with those definitions and formulations of crime and criminals upon which an adaptation system of criminology must be based. It examines the law as the basic framework within which social deviations of a peculiar character assume their functions as criminal acts and those broad principles upon which a science of criminology must rest. Prerequisite: None.	
<i>PSC 115 Criminal Law I</i>	<i>5 0 0 5</i>
Designed to present a basic concept of criminal law and to create appreciation of the rules under which one lives in our system of government. Prerequisite: None.	
<i>PSC 116 Criminal Law II</i>	<i>5 0 0 5</i>
A continuation of the study of the basic concepts of criminal law and why the law operates in its individual ways, jurisdiction, the criminal act, the mental element, criminal responsibility. The study proceeds to detailed examinations of the numerous specific criminal areas. Prerequisite: Criminal Law 1.	
<i>PSC 120 Administration of Justice</i>	<i>3 0 0 3</i>
A review of court systems; procedures from incident to final disposition; the six primary functional areas for the administration of justice to include police, prosecutor, criminal courts, probation, institutions, and parole; and principles of federal, state, and civil laws as they apply to and affect law enforcement. Prerequisite: None.	
<i>PSC 210 Criminalistics I</i>	<i>5 0 0 5</i>
This course introduces the student to fundamentals of investigation; crime scene search; recording, collection and preservation of evidence; sources of information, interview and interrogation; case preparation and court presentation; and the investigation of specific offenses such as arson, narcotics, sex, larceny, burglary, robbery, and homicide. Prerequisite: None.	
<i>PSC 211 Criminalistics II</i>	<i>4 3 0 5</i>
Continuation of the study of criminal investigation including a general survey of the methods and techniques used in modern scientific investigations of crime, with emphasis upon the practical use of these methods by students. Laboratory techniques will be demonstrated and the student will participate in actual use of the scientific equipment. Prerequisite: PSC 210.	

<i>PSC 220 Police Organization — Administration</i>	5 0 0 5	<i>Courses of Instruction</i>
Introduction to principles of organization and administration, discussion of the service functions: e.g., personnel management, police management, training communications, records, property maintenance and miscellaneous services. Prerequisite: None.		143

## POLITICAL SCIENCE

<i>POL 102 Government-National</i>	5 0 0 5
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English and Colonial background, the Articles of Confederation and the framing of the federal Constitution. The nature of the federal union; states' rights, federal powers, political parties. The general organization and functioning of the national government. Prerequisite: None.

<i>POL 103 Government — State and Local</i>	5 0 0 5
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A study of state and local government, state-federal interrelationships, the functions and prerogatives of the branches. Problems of administration, legal procedures, law enforcement, police power, taxation, revenues and appropriations. Special attention will be given to North Carolina. Prerequisite: None.

<i>POL 212 American Government</i>	3 0 0 3
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The student will survey the organization and functions of our national and state government, with special emphasis upon the study of the national Constitution. Prerequisite: None.

## PRACTICAL NURSE EDUCATION

<i>PNE 1101 Fundamentals of Practical Nursing</i>	6 0 6 8
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Interpretation of the role of the practical nurse student and basic knowledge to be used in performing nursing. Philosophy and objectives of practical nursing in the technical institute setting. Use of study methods and materials. Principles of interpersonal relationships in nursing. Body mechanics for nurse and patient. Sterilization and disinfection methods. Principles of medical and surgical asepsis. Use of hospital equipment. Techniques for daily hygienic patient care. Spoken and written communications for nurses. Laboratory and clinical practice in nursing hand skills. Prerequisite: None.

<i>PNE 1102 Nutrition and Diet Therapy</i>	2 0 0 2
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Designed to give knowledge of the use of nutrients for nurse and patient. Functions and sources of nutrients. The mechanics of digestion, absorption and metabolism. Principles of meal planning. Nutritional requirements for all age groups modified by religious, cultural, social, and psychological factors. Common therapeutic diets and their effect on disease conditions. Prerequisite: None.

<i>PNE 1103 Anatomy and Physiology</i>	3 0 0 3
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A study of the general plan of the body and nine systems: nervous, endocrine, skeletal, muscular, circulatory, digestive, respiratory, urinary, male and female reproductive systems. Designed for understanding how the human body controls its functions, stands erect and moves, distributes food and oxygen, removes waste and provides for survival. Prerequisite: None.

<i>PNE 1105 Introduction to Drug Administration</i>	2 0 0 2
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A study of safe techniques for oral drug administration. Knowledge of drug

*Courses of Instruction* 144 sources, methods of preparation and storage. Classification of drugs by use and content. Review of adding, subtracting, multiplying fractions and decimals. Systems for measuring drugs. Solving problems of measurement, conversion within systems and from system to system. Legal aspects of medication preparation. Prerequisite: None.

**PNE 1106 Medical-Surgical Nursing I** 5 0 0 5

An introduction to nursing needs of the adult medical and surgical patient. Uses nursing knowledge gained in all courses in Quarter I. Prepares for nursing care of physical problems caused by illness, body responses to disease and pain, and assisting patients during diagnostic tests. Pre-operative and post-operative care, safety and comfort measures for the aging and meeting needs of patients with a communicable disease. Prerequisites: PNE 1101, 1102, 1103, and 1105.

**PNE 1107 Maternity Nursing** 2 0 0 2

Presentation of modern aspects of maternity nursing. The nursing care of the normal obstetrical patient and newborn child. Detailed nursing care of patients during antepartum labor and postpartum periods. Emphasis on provision of better and safer nursing care for the expectant mother and her baby. Prerequisites: PNE 1101, 1102, 1103, and 1105.

**PNE 1108 Nursing of Children** 3 0 0 3

Comparison of normal growth and development patterns of the newborn, school-age child and adolescent. Physical differences in the child and adult. Methods of meeting needs of the hospitalized child and his parents. Nursing care for common home and hospitalized disorders of children. Prerequisites: PNE 1101, 1102, 1103, and 1105.

**PNE 1109 Clinical Experience I** 0 0 24 8

Eleven weeks experience with patients of all ages in a general hospital under supervision of clinical teachers. Five weeks of experience with young adults, adults of middle years and the aging. Six weeks of experience with mothers and newborns or with sick children from the age of newborn to the adolescent. Practice of simple hand skills and solving of simple nursing care problems. Beginning experience in making observations, using testing materials and instruments. Experience in planning, meeting and charting some simple needs of hospitalized patients. Opportunities to begin development of attitudes and skills necessary for successful practical nursing career. Prerequisites: PNE 1101, 1102, 1103, and 1105.

**PNE 1110 Medical-Surgical Nursing II** 5 0 0 5

Principles and concepts of simple and complex rehabilitative nursing. Cancer nursing. Study of the nursing care and socio-psychological implications of common disorders of adults in the following body systems: respiratory, musculo-skeletal, gastrointestinal, reproductive and urinary. Prerequisites: PNE 1106, 1109, and all Quarter I Courses.

**PNE 1111 Drug Therapy** 2 0 0 2

Factual knowledge in dosages and effects of drugs. Practice with equipment and techniques used in preparing and giving injections. Insulin therapy. Dosage problems. Storage and preparation of narcotics. Prerequisites: PNE 1105 and 1109.

**PNE 1112 Clinical Experience II** 0 0 24 8

Continued experience with adults or experience with children or in the maternity/nursing units. Assignment to patients with nursing needs of the respiratory, musculo-skeletal, gastrointestinal, reproductive and urinary systems. Opportunities for planning to meet needs of patients through treatments

and oral drug administration. Practice of isolation technique and oxygen therapy. Beginning this quarter each student assigned to two days' experience in operating room and recovery room observation. Prerequisites: All Quarter I and II Courses.

**PNE 1113 Medical-Surgical Nursing III**

5 0 0 5

Continuation of study of disorders of body systems. Includes nursing care of medical and surgical conditions of the eye, ear, and skin. Nursing care of disease conditions of the circulatory, nervous and endocrine systems. Introduction to social illnesses of alcoholism, mental disturbances, and drug addiction. Continuation of individual observation in operating room and recovery room until every student has had two days of this experience. Prerequisites: All Quarter I, II, and III Courses.

**PNE 1114 Clinical Experiences III**

0 0 24 8

Student learns her role as an assistant to the professional nurse in caring for the more seriously ill patient. Continued experience with adult in medical-surgical nursing, pediatric nursing or obstetrical nursing under supervision of clinical teachers. Experience in more complicated nursing treatments. Assignment to patients with conditions of circulatory, nervous and endocrine systems and social illnesses. Continuation of individual observation in the operating/recovery rooms until every student has had two days of this experience. Prerequisites: All Quarter I, II, and III Courses.

**PNE 1115 Personal and Vocational Relationships**

2 0 0 2

Advanced practical nursing ethics. Medico-legal aspects of practical nursing. Organizations for the graduate practical nurse. Role of nurses in community and state. Job descriptions. Evaluating, applying, resigning positions. Work resume. Nursing errors and crimes. Continuing education. Preparation for State Board Examinations. North Carolina nursing law. Corequisites: PNE 1113, 1114, and all Quarter I, II, III Courses.

## PRINTING

**PRN 1101 Printer's English**

3 0 0 3

This is not a course for beginners in English, but it is intended to provide a review of the essentials of English as they relate to the art of printing. The course deals with compounding words, modern punctuation, capitalization, syllabication, contractions, homonyms, errors in English words, sentence structure, and the marks in proofreading. Prerequisite: None.

**PRN 1112 Printing Orientation**

2 0 6 4

An introduction to the printing trade. Lectures will cover history of main processes in printing along with study of each process and equipment involved in each. Lab work will consist of producing minor jobs in the area of Letterpress, Offset, and Silkscreen. Prerequisite: None.

**PRN 1113 Offset Camera II**

3 0 6 5

A continuation of PRN 1125. This course is an advanced study of the process camera and related darkroom equipment. Duotones, two, three, and four color separations will be emphasized. Prerequisites: All previous printing courses and MAT 1150.

**PRN 1114 Estimating I**

5 0 0 5

Instruction in the fundamentals of estimating the cost of jobs prior to printing. Areas covered will be estimating time, labor, and materials. Emphasis will be on paper — how to figure the number of sheets needed and how to order

<i>Courses of Instruction</i>	it from the paper house. Prerequisite: All prior printing courses and MAT 1150.	
146	<i>PRN 1124 Offset Stripping and Platemaking</i>	2 0 6 4
	Study of the arranging of negatives and positives in the form of flats from which the offset plates are made. Examination and treatment of negatives to remove defects by opaquing and retouching will be covered. Fundamental principles of platemaking will also be covered. Practical experience in both areas will be received during shop time. Prerequisites: PRN 1130, PRN 1128, MAT 1150.	
	<i>PRN 1125 Offset Camera I</i>	3 0 6 5
	Instruction will include the theory and practice of preparing line and halftone negatives and positive for offset lithography. Camera settings, lens settings, chemical preparation, and film processing will be covered as an integral part of darkroom procedure. Prerequisite: None.	
	<i>PRN 1126 Offset Presswork I</i>	2 0 6 4
	Theory and practice of operating offset printing presses will include experience on the Multilith, A.T.F. Chief, and Itek Offset Presses. Instructions will include inking and water systems, registration, feed and delivery systems, roller and blanket care, and basic trouble shooting.	
	<i>PRN 1127 Offset Presswork II</i>	3 0 6 5
	A continuation of PRN 1126, this course will place emphasis on use and maintenance of the larger press. Students will be introduced to the production of two, three, and four color process printing. Prerequisite: PRN 1126.	
	<i>PRN 1128 Copy Preparation I</i>	2 0 3 3
	Planning, visualizing and designing copy for photographic reproduction. The use of roughs, comprehensives, sketches, mechanicals, pasteups, photostats, mechanical screens, veloxes, photography, reduction, and enlargements of copy, color separation (in-plant and out-of-plant) and imposition. Corequisite: PRN 1130.	
	<i>PRN 1129 Copy Preparation II</i>	3 0 6 5
	A continuation of PRN 1128. Course will consist of study of photo-composition and electronic equipment with emphasis on operation and general maintenance. Practical experience will be received in producing small books and newspapers using the photo-typesetting equipment. Prerequisite: PRN 1128.	
	<i>PRN 1130 Layout and Design</i>	2 0 3 3
	A study of the elements in layout and design, including the principles of balance, proportion, harmony, contact and color in printed matter. An evaluation of designs used for advertisements, business forms, stationery, books, posters, and brochures will be emphasized. Instruction will include sketches, roughs, comprehensives, affinity of type faces, and marking copy in the preparation of dummies in both conventional and modern design. Prerequisite: None.	
	<i>PRN 1140 Elective</i>	0 0 21 7
	The elective subject will be determined after a conference between the instructor and student. The elective will be an area in which the student has had the basic fundamentals of printing. Students may elect to specialize in the area of letterpress or offset printing. Prerequisite: All previous PRN courses.	

## PSYCHOLOGY

<i>PSY 101 Psychology</i>	3 0 0 3
This course is geared to study the principles of human behavior with reference	

to thinking, learning, memory, perception, emotional life, individual differences in intelligence, aptitude, and personality, the scientific nature of psychological investigations and research findings related to daily life. Prerequisite: None.

**PSY 102 General Psychology**

5 0 0 5

A study of the various fields of psychology: the developmental process, motivation, emotion, frustration and adjustment, mental health, attention and perception, problems of group living. Attention is given to applications of these topics to problems of study, self-understanding and adjustment to the demands of society. Prerequisite: None.

**PSY 103 Adolescent Psychology**

5 0 0 5

A study of the nature and source of the problems of adolescents in western culture; physical, emotional, social, intellectual, and personality development of adolescents. Prerequisite: PSY 102 or equivalent.

**PSY 104 The Dynamics of Human Behavior**

3 2 0 4

Study of human behavior, with emphasis on developmental aspects, motivations, common behavioral patterns, and the role of defense mechanisms in human behavior. Laboratory experiences will demonstrate a variety of theories related to human behavior. Prerequisite: None.

**PSY 105 Human Growth and Development: Prenatal and Infant**

3 0 0 3

A detailed study of the developmental sequence of the prenatal and infant periods, with emphasis on developmental influences and conditions necessary for optimal development of individuals. Prerequisite: PSY 104.

**PSY 106 Human Growth and Development: Early Childhood**

3 0 0 3

A detailed study of the developmental sequence during the preschool period, ages 2 to 6. Emphasis is given to factors influencing development; the importance of experiences in establishing patterns of behavior, attitudes, interpersonal skills; language usage; and the relationship of early childhood to later realization of potential. Prerequisite: PSY 105.

**PSY 108 Abnormal Psychology**

5 0 0 5

This course offers an introduction to behavior pathology. The etiology, diagnosis, and prognosis of abnormal behavior. Neurosis, psychosis, character disorders, and psychosomatic reactions are among the topics included in the study. Prerequisite: PSY 102 or equivalent.

**PSY 112 Personality Development**

3 0 0 3

Designed to help the student recognize the importance of the physical, intellectual, social, and emotional dimensions of personality. Emphasizes grooming and method of personality development. Prerequisite: None.

**PSY 169 Social Psychology of Health and Illness**

4 0 0 4

In studying how culture defines one's responses to illness, both the psychological and sociological factors which play such an eminent part in one's development will be investigated. The cultural principles attributed to illness, symbols of illness, and situations associated with illness not only illustrate how illness affects family patterns and development, but also how such psychological and sociological principles affect patient-professional, family-patient, and family-professional relationships.

**PSY 201 Human Growth and Development: Middle Childhood and Adolescence**

3 0 0 3

A detailed study of the developmental sequence during middle childhood and

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adolescence; emphasis is given to environmental and social factors which influence developmental rates, formulation of behavior patterns, and establishment of value systems and interests. Prerequisite: PSY 106.

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*PSY 202 Human Growth and Development: Adulthood 3 0 0 3*

A study of adulthood in terms of developmental tasks, life problems, crises, adjustment mechanisms, and problems related to intellectual, emotional, and social aspects of the individual in relation to others and to society. Prerequisite: PSY 201.

*PSY 205 Child Psychology*

*3 0 0 3*

The objective of this course is to consider the significant phases of motor, cognitive, emotional, and social development of the child as these are influenced by genetic, cultural, and individual elements from the prenatal period to adolescence. Prerequisite: PSY 101.

*PSY 206 Applied Psychology*

*3 0 0 3*

A study of the principles of psychology that will be of assistance in the understanding of interpersonal relationships on the job. Motivation, feelings and emotions are considered with particular reference to on-the-job problems. Other topics investigated are: employee selection, supervision, job satisfaction, and industrial conflicts. Attention is also given to personal and group dynamics so that the student may learn to apply the principles of mental hygiene to his adjustment problems as a worker and as a member of the general community. Prerequisite: None.

*PSY 1101 Human Relations*

*3 0 0 3*

Development of understanding of relationships to other persons through some of the basic principles of human psychology. Study of the problems of the individual and his work situation in relation to society, group membership, and relationships within the work situation. Prerequisite: None.

## RADIOLOGIC TECHNOLOGY

*RDT 113 Departmental Orientation and Ethics*

*0 0 0 0*

Non-credit course (4 lecture hours for one week only). This brief course serves as an introduction to general procedures followed within the Department of Radiology in the clinical setting. Prerequisite: None.

*RDT 116 Radiographic Terminology*

*1 0 0 1*

Designed to familiarize the student with various words, phrases and abbreviations used primarily in the radiology department. Prerequisite: None.

*RDT 125 Radiographic Darkroom*

*2 0 0 2*

Lectures, demonstrations, and experiments designed to instruct in the proper use of various photographic chemicals and techniques producing radiographs of the highest quality. Prerequisite: None.

*RDT 137 Radiographic Technique I*

*3 0 0 3*

This course introduces the student to the basic concepts of radiographic production. Prerequisite: None.

*RDT 138 Practicum I*

*0 0 30 10*

Practical aspects of basic radiography. Prerequisite: None.

*RDT 139 Positioning and Related Anatomy*

*3 0 0 3*

Radiographic positioning of the upper extremity, shoulder girdle, foot, ankle,

and lower leg. Special emphasis is placed upon the osseous radiographic anatomy of the particular structures. Prerequisites: BIO 107, and BIO 108.

**RDT 161 Open Lab I**

0 0 6 2

Clinical experience in RDT 138 as conducted under night and weekend emergency conditions. Prerequisite: None.

**RDT 174 Elementary Radiological Protection**

0 0 0 0

Non-credit course (4 lecture hours for one week only). The student is taught the basic methods by which he, other personnel, and patients are protected from x-rays within the Radiology Department. Prerequisite: None.

**RDT 204 Nuclear Medicine**

2 0 0 2

Fundamentals of radioisotope technology. Prerequisite: None.

**RDT 220 Operating Room Radiography**

1 0 0 1

This course gives the student an understanding of the various radiographic procedures which may be required during surgery. Each student spends an adequate amount of time in the operating room to observe a wide variety of surgical procedures. Prerequisites: RDT 137, and RDT 237.

**RDT 233 Seminar I**

1 0 0 1

A comprehensive study of radiology and the student's role in the medical profession as an x-ray technologist. Prerequisite: None.

**RDT 234 Seminar II**

1 0 0 1

An opportunity for the student to do extra research and review in any aspect of technology in which he has special interest. Guest speakers will present to the students techniques, routines, and policies as carried forth at their respective hospitals. Prerequisite: RDT 233.

**RDT 237 Radiographic Technique II**

3 0 0 3

An in-depth study is presented in the selection of exposure factors, and the proper use of grids, cones, and other devices which may be employed to produce high quality radiographs. Prerequisite: RDT 137.

**RDT 238 Practicum II**

0 0 30 10

Clinical practice with proficiency in the proper use of radiographic accessories and equipment. Prerequisite: RDT 138.

**RDT 241 Contrast Media**

1 0 0 1

A study of the composition and use of radiopaque and radiolucent agents in visualizing various anatomical structures. Special emphasis is placed upon the proper administration of the drugs, sensitivity to the contrast agents and adverse reactions. Prerequisite: None.

**RDT 248 Practicum III**

0 0 30 10

Clinical instruction with emphasis on efficient operation of radiographic and fluorographic equipment and procedures. Prerequisite: RDT 238.

**RDT 249 Radiation Protection**

1 0 0 1

Protective regulations, monitoring methods, and techniques for reading exposure of patients and technologists. Prerequisite: None.

**RDT 250 Special Procedures**

2 0 0 2

An in-depth study of radiographic procedures employing body section radiography, stereography, kymography, etc. Prerequisite: None.

**RDT 252 Special Procedures**

2 0 0 2

A study of all phases of angiography including cerebral, vascular, and cardio-angiography. Prerequisite: RDT 250.

<i>Courses</i>	<i>RDT 257 Departmental Administration</i>	<i>1 0 0 1</i>
<i>of Instruction</i>	To acquaint the student with the function, organization, supervision, and financial arrangements in the Radiology Department. Prerequisite: None.	
150	<i>RDT 258 Practicum IV</i>	<i>0 0 30 10</i>
	Emphasis is placed upon the efficient operation of special equipment and procedures as a part of continuing clinical experience. Prerequisite: RDT 248.	
	<i>RDT 259 Positioning and Related Anatomy</i>	<i>3 0 0 3</i>
	Radiographic positioning of the proximal lower extremity, hip, pelvis, vertebral column, and skull. Prerequisite: RDT 139.	
	<i>RDT 260 Pediatric Radiography</i>	<i>1 0 0 1</i>
	A study of various positions, technical factors, and special problems associated with the radiography of infants and children. Prerequisite: RDT 137.	
	<i>RDT 262 Open Lab II</i>	<i>0 0 6 2</i>
	Clinical experience in RDT 238 as conducted under night and weekend emergency conditions. Prerequisite: RDT 161.	
	<i>RDT 263 Open Lab III</i>	<i>0 0 6 2</i>
	Clinical experience in RDT 248 as conducted under night and weekend emergency conditions. Prerequisite: RDT 262.	
	<i>RDT 264 Open Lab IV</i>	<i>0 0 6 2</i>
	Clinical experience in RDT 258 as conducted under night and weekend emergency conditions. Prerequisite: RDT 263.	
	<i>RDT 265 Open Lab IV</i>	<i>0 0 9 3</i>
	Clinical experience in RDT 268 as conducted under night and weekend emergency conditions. Prerequisite: RDT 264.	
	<i>RDT 268 Practicum V</i>	<i>0 0 30 10</i>
	An advanced clinical participation in radiographic theory, technique, and all categories of radiologic technology. Prerequisite: RDT 258.	
	<i>RDT 269 Positioning and Related Anatomy</i>	<i>3 0 0 3</i>
	This course deals with the radiography of body systems including the gastrointestinal tract, colon, biliary tract, and urinary tract, with special considerations of the related anatomy and physiology as applied in radiography. Prerequisite: RDT 259.	
	<i>RDT 275 TV and Monitor Systems</i>	<i>1 0 0 1</i>
	A study of image intensification, videotape systems, and other recording devices used in the field of radiology. Through this course the student gains a basic understanding for this relatively new development in the advancement of radiographic science. Prerequisite: None.	
	<i>RDT 276 Equipment Maintenance</i>	<i>1 0 0 1</i>
	To familiarize the student with the component circuits of an x-ray unit, to permit detection and proper correction of difficulties which interfere with or prevent the proper function of the equipment or accessories; as well as preventive maintenance to avoid expensive breakdown. Prerequisite: None.	
	<i>RDT 280 Dental Radiography</i>	<i>1 0 0 1</i>
	To familiarize the student with the essential equipment, accessories, and techniques used in dental radiography. Prerequisite: RDT 137, and RDT 237.	
	<i>RDT 281 Radiation Therapy</i>	<i>2 0 0 2</i>
	Fundamentals of radiation therapy techniques and their use in the treatment of diseases. Prerequisite: None.	

<i>RDT 283 Radiographic Pathology</i>	2 0 0 2	<i>Courses of Instruction</i>
A course provided primarily for the x-ray student relating pathological conditions and their appearance on the radiography. Prerequisite: None.		151
<i>RDT 289 Film Critique I</i>	1 0 0 1	
A review of films obtained by the student with consideration of basic positioning and technique. Prerequisite: None.		
<i>RDT 290 Film Critique II</i>	2 0 0 2	
Evaluation of diagnostic film quality as related to proper use of radiographic accessories. Prerequisite: 289.		
<i>RDT 291 Film Critique III</i>	2 0 0 2	
Critical analysis of radiographs obtained by the student with emphasis upon special techniques and fluorographic procedures. Prerequisite: RDT 290.		
<i>RDT 292 Film Critique IV</i>	2 0 0 2	
The student presents films for critical evaluation of advanced radiographic procedures with emphasis upon visual anatomical structures and pathological conditions. Prerequisite: RDT 291.		

## SCIENCE

<i>SCI 101 General Science</i>	3 4 0 5
Study of basic concepts from biological, physical, and natural sciences. Laboratory experiences provide opportunities to develop projects for demonstrating simple science concepts to young children, utilizing materials from nature and simple equipment. Each student will develop a series of projects appropriate for a specific level of development. Prerequisite: None.	

## SOCIOLOGY

<i>SOC 100 Sociology I</i>	0 4 0 2
The recognition and development of human potential through emphasis on positive achievements, characteristics and attitudes. Beginning sessions will seek to establish for each student those things about himself that he can like and take pride in. Early in the course students will begin a process of establishing short-term goals. Other positive processes will include an analysis of strengths, identification of personal values, recognition of latent potential and establishment of long-range goals.	
<i>SOC 101 Sociology II</i>	0 4 0 2
A continuation of the process begun in 100 with more in depth analysis of individual potential and more emphasis on long-range goal establishment. The student will be encouraged to be aware of his feeling and to utilize them to advantage. Honest self-appraisal, development of self-confidence and positive self-image are primary objectives.	
<i>SOC 102 Principles of Sociology</i>	5 0 0 5
An introductory course in the principles of sociology. An attempt to provide an understanding of culture, collective behavior, community life, social institutions, and social change. Presents the scientific study of man's behavior in relation to other men, the general laws affecting the organization of such	

<i>Courses of Instruction</i>	<i>152</i>	relationships and the effects of social life on human personality and behavior. Prerequisite: None.	
		<i>SOC 103 Sociology</i>	<i>3 0 0 3</i>
		The student will examine the social environment in which personality matures, and an analysis of the major social institutions as well as the major social process. Attention is given to the scope, methods and concepts of sociology. Prerequisite: None.	
		<i>SOC 104 The Family: A Cross-Cultural Survey</i>	<i>3 0 0 3</i>
		Study of the family as a social unit, with primary focus on the influence of family relationships during infancy and childhood. Historical patterns and the evolution of family roles in various types of cultures provide opportunities to analyze and interpret the influence of the culture and the family in relation to the larger society. Prerequisite: None.	
		<i>SOC 105 Families in the American Culutre</i>	<i>3 0 0 3</i>
		Study of the family in the American culture, changing patterns in family roles, the influence of socio-economic status on family relationships, factors associated with cultural deprivation, and the effects on children in such families. Prerequisite: SOC 104.	
		<i>SOC 106 The Family in the Community</i>	<i>3 0 0 3</i>
		Study of community agencies concerned with physical and mental health in families, socio-economic problems, and education for child-rearing. Prerequisite: SOC 105.	
		<i>SOC 201 The Child and Community Services</i>	<i>3 0 0 3</i>
		Study of the type of facilities needed by a community concerned with the well-being of its children. Analysis of child needs which can be met through community planning, with identification of local, state, and national resources. Prerequisite: SOC 106.	
		<i>SOC 207 Rural Society</i>	<i>3 0 0 3</i>
		A study of selected elements of rural sociology with emphasis on current social changes. The course provides a sociological background for the understanding of rural social changes. Areas of study include rural culture, group relationships, social classes, rural suburban communities, farm organizations, the communication of agricultural technology, rural social problems, agricultural adjustment, and population change. Prerequisite: None.	
		<i>SOC 210 Minorities in American Society</i>	<i>5 0 0 5</i>
		A study of the historical and scientific questions of race; a study of socio-cultural patterns in various inter-racial areas; and inquiry into the problems of conflict and adjustment.	

## WELDING

<i>WLD 1101 Basic Gas Welding</i>	<i>1 0 3 2</i>
Welding demonstrations by the instructor and practice by students in the welding shop. Safe and correct methods of assembling and operating the welding equipment. Practice given for surface welding; bronze welding; silver-soldering, and flame-cutting methods applicable to mechanical repair work. Prerequisite: None.	
<i>WLD 1102 Applied Metal Preparation and Welding</i>	<i>1 0 3 . . 2</i>
Welding practices on material applicable to the installation of body panels and	

repairs to doors, fenders, hoods, and deck lids. Student runs beads, does butt and fillet welding. Performs tests to detect strength and weaknesses of welded joints. Safety procedures emphasized throughout the course. Prerequisite: WLD 1130.

**WLD 1111 Air Conditioning Welding** 1 0 3 2

Welding demonstrations by the instructor and practice by students. Safe and correct methods of assembling and operating the welding equipment. Practice given for surface welding; bronze welding, silver-soldering, and flame-cutting methods applicable to mechanical repair work. Prerequisite: None.

**WLD 1113 Mechanical Testing and Inspection** 1 0 3 2

The standard methods for mechanical testing of welds. Types of test covered: bend, destructive, free-bend, guided-bend, nick-tear, notched-bend, tee-bend, nondestructive, V-notch, Charpy impact, etc. Prerequisites: WLD 1120, WLD 1121.

**WLD 1120 Oxyacetylene Welding and Cutting** 4 0 15 9

Introduction to the history of oxyacetylene welding, the principles of welding and cutting, nomenclature of the equipment, assembly of units. Welding procedures such as practice of puddling and carrying the puddle, running flat beads, butt welding in the flat, vertical and overhead positions, brazing, hard and soft soldering. Safety procedures stressed throughout the program of instruction in the use of tools and equipment. Performance of mechanical testing and inspection to determine quality of the welds. Prerequisite: None.

**WLD 1121 Basic Arc Welding** 4 0 15 9

The operation of AC transformers and DC motor generator arc welding sets. Studies made of welding heats, polarities, and electrodes for use in joining various metal alloys by the arc welding process. After the student is capable of running beads, butt, and fillet, welds in all positions are made and tested in order that the student may detect his weaknesses in welding. Safety procedures emphasized in the use of tools and equipment. Prerequisite: None.

**WLD 1123 Inert Gas Welding** 1 0 6 3

Introduction and practical operations in the use of inert-gas-shield arc welding. A study of the equipment, operation, safety and practice in the various positions. A thorough study of such topics as: principles of operation, shielding gases, filler rods, process variations and applications, manual and automatic welding. Prerequisites: WLD 1120, WLD 1121.

**WLD 1124 Advanced Arc Welding** 3 0 12 7

Extensive practice in the welding of different metals and pressure pipe in all positions. The micro-wire welding process and a thorough study of such topics as principles of operation, nomenclature of machine, filler metals and shielding gases for the different type of metals. Special processes such as hard-facing laser beam and ultra-sonic welding. Introduction to the welder certification procedures and practices. Prerequisites: WLD 1120, WLD 1121.

**WLD 1126 Advanced Inert Gas Welding** 3 0 9 6

A continuation of WLD 1123. Theory and practice in inert gas welding. Both ferrous and non-ferrous welding applications covered. Inert spot welding, CO<sub>2</sub> welding, gas metal-arc, mig pipe welding, and automatic welding are taught. Special consideration given to shielding gases and certification procedures. Prerequisite: WLD 1123.

**WLD 1127 Introduction to Pipe Welding** 1 0 6 3

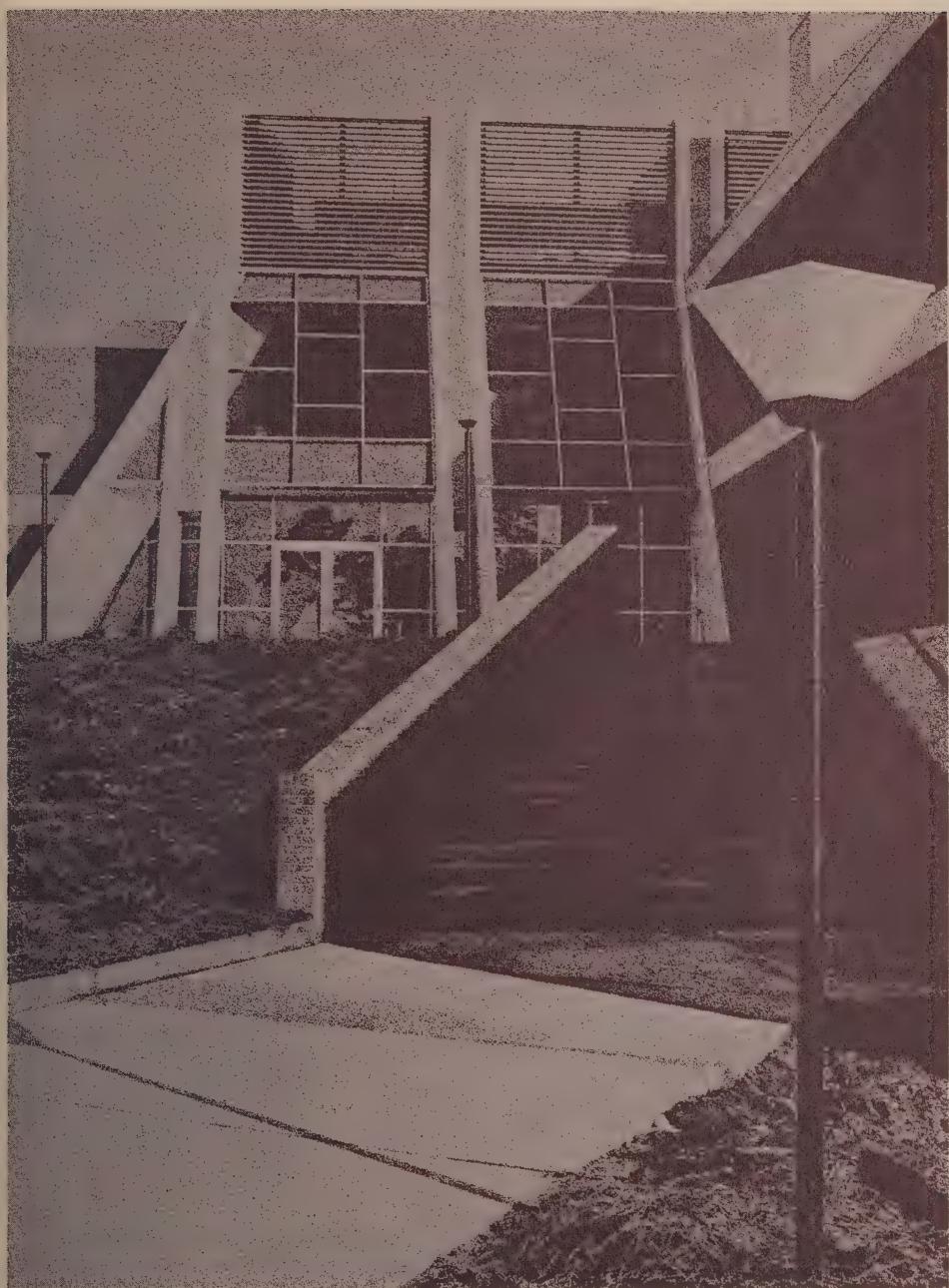
Designed to provide practice in the welding of pressure piping in the hori-

<i>Courses of Instruction</i>	<i>154</i>	zontal, vertical and horizontal fixed positions using shielded metal arc welding processes according to the ASME code.
		<b>WLD 1130 Applied Basic Arc and Gas Welding</b> 1 0 6 3
		Welding demonstrations by the instructor and practice by students in the welding shop. Safe and correct methods of assembling and operating the welding equipment. Practice given for surface welding; bronze welding, silver-soldering, and flame-cutting methods applicable to mechanical repair work. Prerequisite: None.

<b>WLD 1131 Applied Inert Gas Welding</b>	2 0 3 3
Introduction and practical operation of the Inert Gas Welding processes. A study of the principles of operation of shielding gases, filler metals, M.I.G. guns, T.I.G. torches and T.I.G. spot guns will be covered. Special attention given to the joining of thin metals, both ferrous and non-ferrous. Safety procedures emphasized throughout the course. Prerequisite: WLD 1102.	





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## ADMINISTRATIVE OFFICERS

Personnel  
157

Harley P. Affeldt .....	President
Paul D. Apple .....	Dean of Instruction
Audrey S. Kirby .....	Director of Student Personnel
Charles P. Branch .....	Business Manager
T. Glen Fleeman, Jr. ....	Director of Adult Education

## INSTRUCTION

Paul D. Apple, Dean

### *Curriculum Programs*

Grace B. Corey .....	Department Head, Related Technical Instruction
Donald B. Trotter .....	Department Head, Engineering Technologies
Thomas A. Taylor .....	Department Head, General Business
James R. Winning .....	Department Head, Health Technologies

### *Library*

Audrey B. Zablocki .....	Head Librarian
Thomas F. Gordon .....	Assistant Librarian
Brenda G. Blair .....	Audio-Visual Technician

### *Learning Labs*

Robert L. Stern .....	Chief Coordinator
Anne M. Teachey .....	Coordinator
Ernest W. Tompkins .....	Coordinator

### *Adult Education:*

T. Glen Fleeman, Jr. ....	Director
L. T. Williams .....	Director, Occupational Extension
R. Shelton Jones .....	Director, Evening Programs
Velma A. Jackson .....	Supervisor, Adult Basic Education
Joby Matthews .....	Supervisor, Manpower Development Training

## STUDENT PERSONNEL

Audrey S. Kirby, Director  
R. Paul Day, Counselor Charles R. King, Counselor  
Ben Howell, Counselor Rebecca Shepard, Counselor  
George McLendon, Counselor Borys Leoczko, Financial Aid  
Gary Ogburn, Counselor and Veteran Affairs  
Merial B. Holland, Registrar

## *Placement Services*

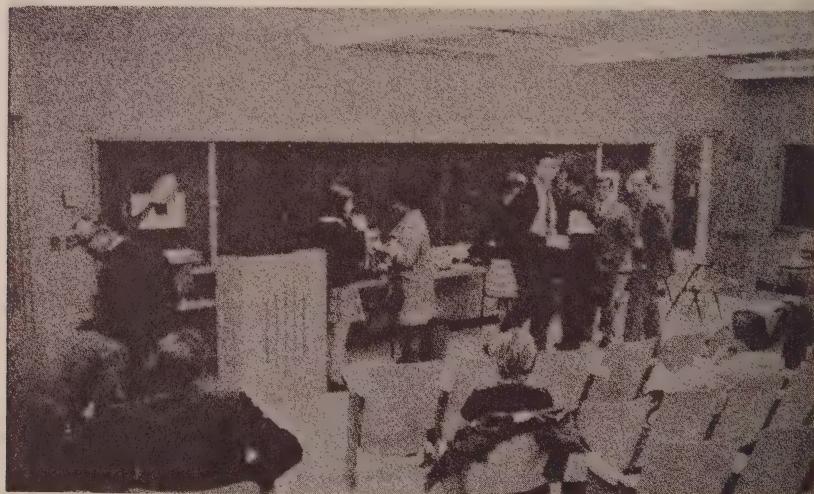
(A cooperative placement effort between the Employment Security Commission and Forsyth Technical Institute.)  
Placement Officer Supplied by Employment Security Commission

## COMMUNITY AND COLLEGE RELATIONS

Jean R. Perkins, Coordinator

## BUSINESS AFFAIRS

Charles P. Branch, Business Manager  
T. V. Ranson, Security Officer  
Cameron Wade, Book Store Manager  
Jones Yount, Superintendent Building and Grounds



## FACULTY AND STAFF

Personnel  
159

Affeldt, Harley P. .... President  
B.S. and M. Ed. Virginia Polytechnic Institute; further graduate study at University of Virginia and North Carolina State University

Allred, Sammy L. .... Business Administration  
B.S. and M.A. Appalachian State University

Apple, Paul D. .... Dean of Instruction  
B.S. Bowling Green State University; M.A. Toledo State University

Atkins, Harold L. Senior Instructor .... Horticulture  
B.S. and M.S. North Carolina State University

Attaway, Cecil .... Mechanical Technology  
B.S. M.E. Clemson University; M.S.M.E. Georgia Tech; PhD M.E. Georgia Tech

Bailey, Sadie .... Associate Degree Nursing  
Registered Nurse, Georgia Baptist Hospital School of Nursing; B.S. University of Georgia; Post graduate work in Obstetric Nursing, Wake Forest University

Barnes, Patrick D., Senior Instructor .... Electronic Data Processing  
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Bass, Joseph B., Senior Instructor .... Architectural Technology  
B.S. North Carolina State University; North Carolina Registered Architect

Beeson, John E., Senior Instructor .... Mechanical Engineering  
Technologies  
B.S. M.E. North Carolina State University; Professional Engineer State of North Carolina, Institute for Materials Handling Teachers, Purdue University

Blair, Brenda G. .... Audio Visual Technician  
A.A.S. Guilford Technical Institute

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Undergraduate study Wake Forest University, North Carolina State University, A & T State University, University of North Carolina — Greensboro, Western Electric Wenoca School; Metals Engineering Institute; Certified; Aircraft and Missile Welding; Military Specification T-5021

Branch, Charles P. .... Business Manager  
A.A. National Business College, Roanoke, Virginia, B.A. Lynchburg College, Lynchburg, Virginia

Carter, Richard D., Sr. .... Auto Body Repair  
Piedmont Bible College; Special Chevrolet training, qualified technician

Cates, Ray C. .... Horticulture  
B.S. North Carolina State University; M.Ed. University of North Carolina; Certificate Business Manager's Course, University of Omaha; further graduate study, University of North Carolina — Greensboro

<i>Personnel</i>	<b>Chadwick, H. Leslie</b>	Mathematics
160	B.A., M.A. East Carolina University; further graduate study George Peabody College, Duke University	
	<b>Chase, Betty</b>	Mathematics
	B.S. Appalachian State University; Graduate Study University of North Carolina-Greensboro; M.A. in progress Wake Forest University	
	<b>Conner, Elizabeth H.</b>	Bio Science
	B.S. Duke University; M.A. University of Missouri	
	<b>Corey, Grace B., Department Head</b>	Related Technical Instruction
	B.S. University of North Carolina — Greensboro; M. Ed. University of North Carolina — Greensboro	
	<b>Crosby, Frances L.</b>	Practical Nurse Education
	Registered Nurse; B.S. Winston-Salem State University	
	<b>Dalton, Patricia G., Senior Instructor</b>	Executive Secretarial Science
	B.S. University of North Carolina — Greensboro; M. Ed. University of North Carolina — Greensboro	
	<b>Darden, Jean L.</b>	Practical Nurse Education
	Registered Nurse; Watts Hospital School of Nursing; further study Wake Forest University and University of North Carolina, Chapel Hill	
	<b>Day, R. Paul</b>	Counselor
	B.B.A. University of Minnesota; M. Ed. University of North Carolina — Greensboro	
	<b>DeRamus, Sarah I.</b>	Humanities
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	Registered Nurse, Winston-Salem State University; B.S. Winston-Salem State University; Graduate work at Wake Forest University; Certificate Public Health Nursing	
	<b>Fishel, Lloyd V.</b>	Mechanical Technology
	A.A.S. Gaston Community College; Further Study A & T State University	
	<b>Fishel, Wilburn C., Senior Instructor</b>	Auto Body Repair
	Twenty-five years experience as body repairman; Eight years certified State Fire Service Instructor	
	<b>Fleeman, T. Glen, Jr., Director</b>	Adult Education
	B.S. Concord College; M.Ed. University of North Carolina — Greensboro	
	<b>Forrest, William C.</b>	Humanities
	B.A. University of North Carolina — Charlotte; M.A. Appalachian State University	
	<b>Foster, Lloyd L., Jr.</b>	Electronics Engineering Technology
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Gardner, John E., Senior Instructor	Radio and Television Servicing
Diploma Coyne Electrical School; Diploma R.C.A. Institutes; Certificate (Motorola) Solid State Color; attended Capitol Radio Engineering In- stitute; Certificate Color TV, Zenith	
Goforth, David Shelton	Bio Science
B.S., M.A. Appalachian State University	
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A.B. Duke University; M.S. University of North Carolina — Chapel Hill	
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Gray, Retta W.	Humanities
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Haire, Martha L.	Practical Nurse Education
Registered Nurse, North Carolina Baptist Hospital School of Nursing; B.S. Wake Forest University; further study North Carolina State University	
Hege, Raymond W., Senior Instructor	Carpentry
Thirty-nine years experience in field of carpentry	
Hines, Harvey L., Senior Instructor	Automotive Mechanics
North Carolina State University; further study General Motors Training Center; Ford Motor Company Training School; High Point College; North Carolina State University; Aamco Training Center	
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Holland, Margaret B., Senior Instructor	Practical Nurse Education
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Holland, Merial B.	Registrar
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Humphrey, Hilliard R., Senior Instructor	Plumbing
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Hunter, Larry H., Senior Instructor	Graphic Arts
B.S. Arkansas State University; Diploma in Printing, Chowan College	
Jackson, Velma A., Supervisor	Adult Basic Education
B.S. Winston-Salem State University; M.A. Columbia University; Profes- sional Diploma in Guidance, Columbia University; further study University of Wisconsin	

<i>Personnel</i>	Johnson, Albert S. ....	Mechanical Technology
162	B.S. North Carolina State University	
	Johnson, Gary C. ....	Physics, Mathematics
	B.A. Elon College; M.S. in progress	Wake Forest University
	Jones, Lester M., Senior Instructor ....	Air Conditioning
	Graduate, Coyne Electrical School; Certificate Refrigeration Service Engineers; Philco-Ford Corporation Training Program; State Certificate North Carolina	
	Jones, Randall R., Senior Instructor ....	Machine Shop
	International Correspondence School, Mechanical Engineering; Machinist Apprenticeship Johnson City, Tennessee Foundry and Machine Works	
	Jones, Ray ....	Psychology
	A.B. East Carolina University; M.A. Appalachian State University; Candidate, Ed. D., University of North Carolina — Greensboro	
	Jones, R. Shelton, Director ....	Evening Programs
	B.S., M.S. Virginia Polytechnic Institute, Undergraduate work William and Mary College; Advanced Study, University of North Carolina — Greensboro; further study Commonwealth University Extension; Western Michigan University	
	Kahl, George H., Senior Instructor ....	Diesel Truck, Maintenance and Repair
	A.A.S. Milwaukee Institute of Technology; B.S. Stout University; undergraduate study Drake University; M. Ed. University of North Carolina — Greensboro	
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	A.B. Business Education, Lenoir Rhyne College, M.S. University of North Carolina — Greensboro in progress	
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	King, Mary L. ....	Practical Nurse Education
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	Lundgren, Loren W. ....	Business Administration
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Maloyed, Bayard Douglas, Senior Instructor . . . Electrical Installation Graduate, Coyne Electrical School, Chicago, Illinois; Certificate National Electrical Code, North Carolina Electrical Contractors Association; North Carolina State-Wide Unlimited Electrical Contractor's License

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Ogburn, Gary . . . . . Counselor  
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Reed, Stewart W., Senior Instructor . . . Electronics Engineering  
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Reidenbach, Fred L. . . . . M.D.T.A. Counselor  
Alfred Agricultural and Technical Institute

Roberts, David L. . . . . Humanities  
B.A. Wake Forest University; M.A.T. Duke University

<i>Personnel</i>	<b>Shepard, Rebecca</b>	Counselor
164	A.B. University of Georgia; M. Ed. University of North Carolina — Chapel Hill; graduate study Tulane University; advanced graduate study University of North Carolina — Chapel Hill and North Carolina State University	
	<b>Staley, Thomas R.</b> , Senior Instructor	Business Administration
	B.S. Appalachian State University; M. Ed. University of North Carolina; further study Guilford College	
	<b>Stephenson, Andrew H.</b>	Business Administration
	B.A., B.S. High Point College; M. Ed. University of North Carolina — Greensboro; advanced study George Washington University, Marine Corps Institute	
	<b>Stern, Robert L.</b> , Chief Coordinator	Learning Labs
	B.J. University of Missouri; M.F.A. in Progress, University of North Carolina — Greensboro	
	<b>Stewart, Mary H.</b>	Practical Nurse Education
	Registered Nurse, B.A. Lenoir Rhyne College; B.S. Johns Hopkins University	
	<b>Stowers, Marilyn H.</b> , Coordinator	Pre-Technical Program
	B.A. Atlantic Christian; M. Ed. University of North Carolina — Greensboro; graduate study University of North Carolina — Chapel Hill and Wake Forest University; further study Queens College and Orton Reading Center	
	<b>Taylor, Thomas A.</b> , Department Head	General Business Technology
	B.S., M.S. North Carolina State University; two years toward Ph.D. North Carolina State University; further graduate study University of North Carolina — Greensboro	
	<b>Teachey, Anne M.</b> , Coordinator	Learning Labs
	B.S. University of North Carolina — Greensboro	
	<b>Tedder, Jake D.</b>	Business Administration
	A.A. Pfeiffer College; B.S. University of North Carolina — Chapel Hill; M. Ed. University of North Carolina — Greensboro	
	<b>Tharpe, Betty H.</b>	Building Trades Drafting
	Western Electric Training School; General Electric Design Course	
	<b>Tompkins, Ernest Wayne</b> , Coordinator	Learning Labs
	B.S., B.A. Jacksonville State University; further study University of Alabama	
	<b>Tornow, Ann</b>	Humanities
	B.A. Wake Forest University; Graduate School Wake Forest University; M.A. in progress	
	<b>Torrence, Jeanne A.</b>	Humanities
	A.B. Pfeiffer College; M.A. University of Tennessee	
	<b>Traganza, Elizabeth</b>	Associate Degree Nursing
	Registered Nurse, Conemaugh Valley Hospital School of Nursing; B.A. Pennsylvania State University; M.A. Ohio State University	

Trotter, Donald L., Department Head	Engineering Technologies	Personnel
B.S. E.E. North Carolina State University, North Carolina	Registered Engineer	165
Wade, Cameron	Bookstore Manager	
B.S. Pfeiffer College		
White, Norman	Welding	
Special training North Carolina State and Pratt Institute, Brooklyn, New York; Anaconda Welding Training Program; Certified; U.S.A.F. Mil-T5021 and U.S. Navy Specifications; graduate U.S.A.F. Airplane Mechanics, Aerial Gunnery and Aerial Gunnery Instructors School; Further Study University of Tennessee — Oak Ridge		
Wilder, William B.	Automotive Mechanics	
Chowan College; Forsyth Technical Institute		
Williams, Joyce	Associate Degree Nursing	
Registered Nurse, Cabarrus Memorial Hospital School of Nursing; B.S. Pfeiffer College		
Williams, L. T., Director	Occupational Extension	
B.S. Western Carolina University; further study North Carolina State University; M. Ed. University of North Carolina — Greensboro		
Winning, James R., Department Head	Health Technologies	
B.S. Clemson University; M.A., East Tennessee State University		
Young, Leonard H.	Diesel Truck Maintenance and Repair	
Diesel Truck Maintenance and Repair, Cummins Engine Company; further training Bendix-Westinghouse, General Motors Corporation, Caterpillar Tractor		
Zablocki, Audrey B.	Head Librarian	
B.S. Appalachian State University; M. Ed. University of North Carolina — Greensboro; advanced professional study, School of Library Science, University of North Carolina — Chapel Hill; Certified Media Specialist, HEA II Chapel Hill; Graduate study Wake Forest University		

**Part-Time Senior Instructors  
for  
Health Technologies**

Baggett, Marsha L., Senior Instructor	Nuclear Medicine Technology
Registered X-ray and Nuclear Medicine Technologist, North Carolina Baptist Hospital	
Beckham, Richard W., Senior Instructor	Inhalation Therapy Technology
B.S., M.S. University of Florida	
Hill, Glover L., Senior Instructor	Radiologic Technology
B.S. North Carolina Central University; Registered Radiologic Technologist, Reynolds Memorial Hospital School of Radiologic Technology	

Personnel	Johnson, James E., Senior Instructor	Inhalation Therapy
166		Technology
	Bethany Nazarene College, Bethany, Oklahoma; Certified Inhalation	
	Therapy Technician	
Ogburn, Pamela H., Senior Instructor	Radiologic Technology	
	A.A. Daytona Beach Jr. College; A.S. Halifax District Hospital, Daytona	
	Beach, Florida; Registered Radiologic Technologist	
Ritchie, Clyde F., Senior Instructor	Radiologic Technology	
	A.S. Alderson-Broaddus College; Registered Radiologic Technologist, North	
	Carolina Memorial Hospital, University of North Carolina	
Robertson, Mary Ellen, Senior Instructor	Radiologic Technology	
	Registered Radiologic Technologist, Forsyth Memorial Hospital School	
	of X-ray Technology	

The faculty and staff of the Institute hold memberships in the following learned societies and professional associations:

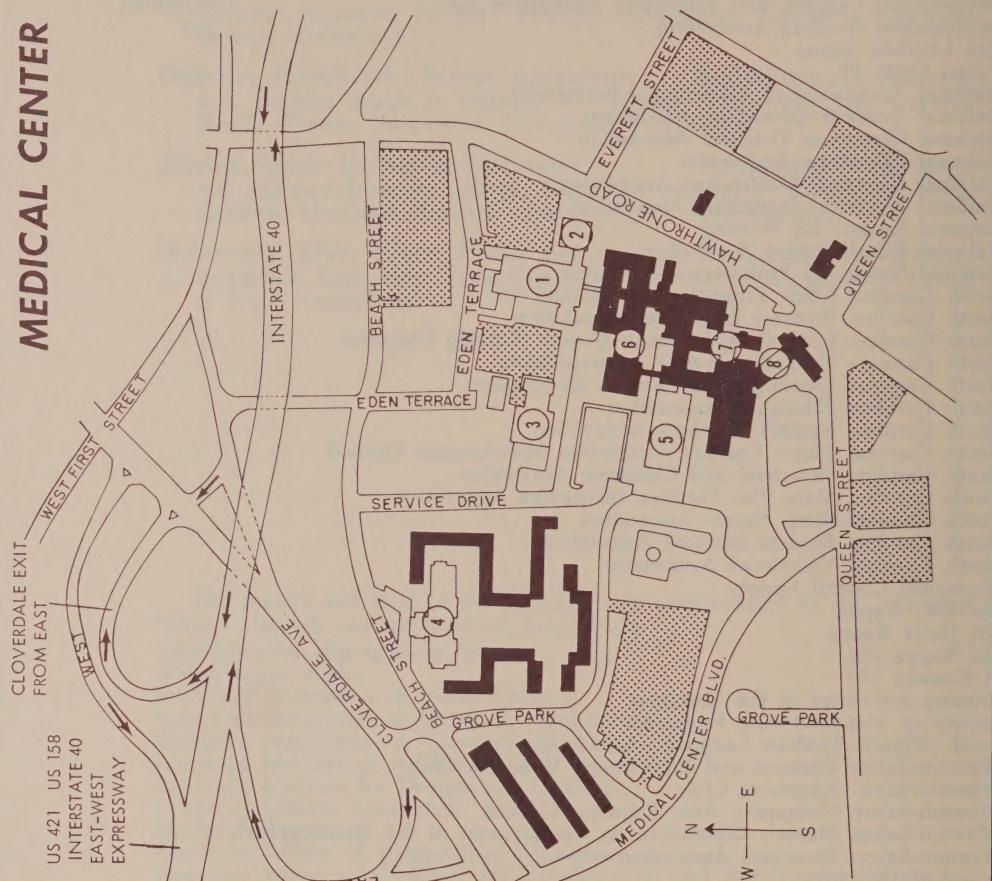
Administrative Management Society  
 Alpha Kappa Alpha  
 American Association of Junior Colleges  
 American Association of University Professors  
 American Association of University Women  
 American Institute of Architects  
 American Institute for Design and Drafting  
 American Library Association  
 American Red Cross  
 American Society of Engineering Education  
 American Society of Heating, Air Conditioning, and Refrigeration Engineers  
 American Society of Metals  
 American Society of Tools and Manufacturing Engineers  
 American Technical Education Association  
 American Vocational Association  
 American Welding Society  
 Association of Allied Health Professions  
 Association of Community College Public Information Officers  
 Beta Alpha Psi  
 Beta Beta Beta  
 Beta Phi Mu  
 Carolinas Association of Collegiate Registrars and Admissions Officers  
 Chi Lambda Chi  
 College News Seminar of the Carolinas  
 College Reading Association  
 Delta Pi Epsilon  
 Delta Sigma Theta  
 Forsyth Council of the International Reading Association  
 Governor's North Carolina Commission on Education and Employment of  
 Women

International Graphic Arts Education Association Inc.  
International Reading Association  
Iota Lambda Sigma  
Kappa Delta Pi  
National Association of Educational Secretaries  
National Business Education Association  
National Classroom Teachers Association  
National Education Association  
National Electrical Contractors Association  
National Electrical Inspectors Association  
National League for Nursing  
National Rehabilitation Association  
National Society of Professional Engineers  
North Carolina Adult Education Association  
North Carolina Business Education Association  
North Carolina Council of Associate Degree Nursing Programs  
North Carolina Council of Local Administrators  
North Carolina Developmental Studies Association  
North Carolina Education Association  
North Carolina English Teachers Association  
North Carolina Motor Carriers Association Maintenance Council  
North Carolina Personnel and Guidance Association  
North Carolina State Fire Services Instructors Association  
North Carolina State Nurses Association  
North Carolina Student Services Association  
North Carolina Vocational Association  
Numerical Control Society  
Phi Beta Kappa  
Phi Delta Kappa  
Phi Kappa Phi  
Pi Gamma Mu  
Printing Industries of the Carolinas  
Society of Manufacturing Engineers  
South Atlantic Modern Language Association  
Winston-Salem Business and Professional Women's Club  
Winston-Salem Engineers Club  
Winston-Salem Manpower Area Planning Council  
Winston-Salem Mayor's Committee on Employment of the Handicapped  
Winston-Salem Personnel Association  
Board of Directors:  
    Goodwill Rehabilitation Center  
    Winston-Salem Industries of the Blind  
    Winston-Salem Experiment in Self Reliance

*Personnel*  
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# MEDICAL CENTER

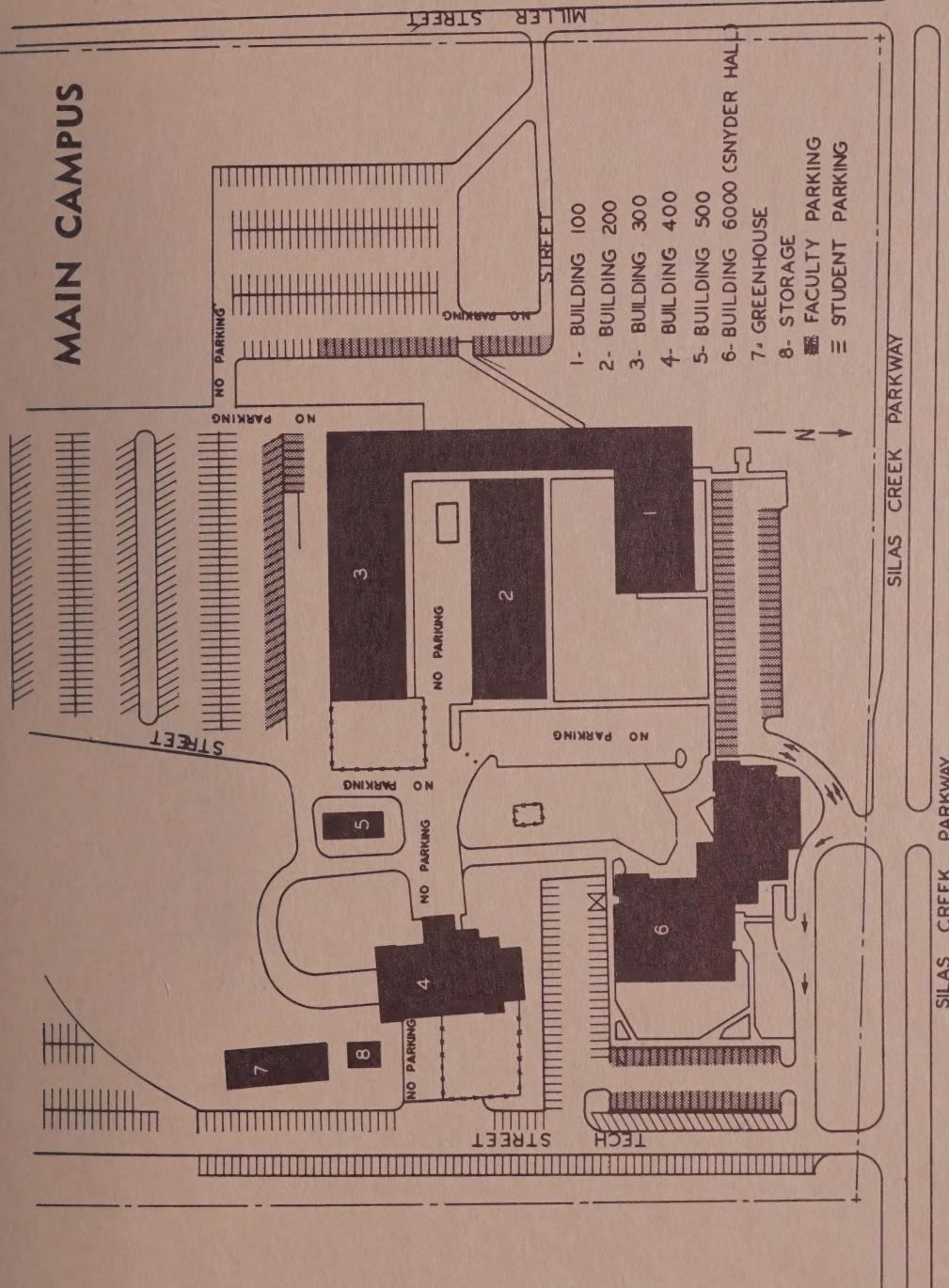


TO  
SILAS CREEK PARKWAY  
AND WAKE FOREST  
UNIVERSITY

- 1- THE HANES BUILDING
- 2- CHARLES H. BABCOCK AUDITORIUM
- 3- MEDICAL CENTER POWER PLANT
- 4- THE SCHOOL OF NURSING AND  
ALLIED HEALTH PROGRAMS BUILDING
- 5- N.C. BAPTIST HOSPITAL ADDITION  
(UNDER CONSTRUCTION)
- 6- BOWMAN GRAY SCHOOL OF MEDICINE
- 7- N.C. BAPTIST HOSPITAL
- 8- PROGRESSIVE CARE CENTER



# MAIN CAMPUS



FORSYTH TECHNICAL INSTITUTE  
2100 SILAS CREEK PARKWAY  
WINSTON-SALEM, N.C. 27103